



## **NLRB'S ATTACK ON EMPLOYERS CONTINUES**

Every employer, union or not, has to be concerned about recent decisions coming out of the NLRB. —p16

## **IS THE U.S. MANUFACTURING RENAISSANCE REAL?**

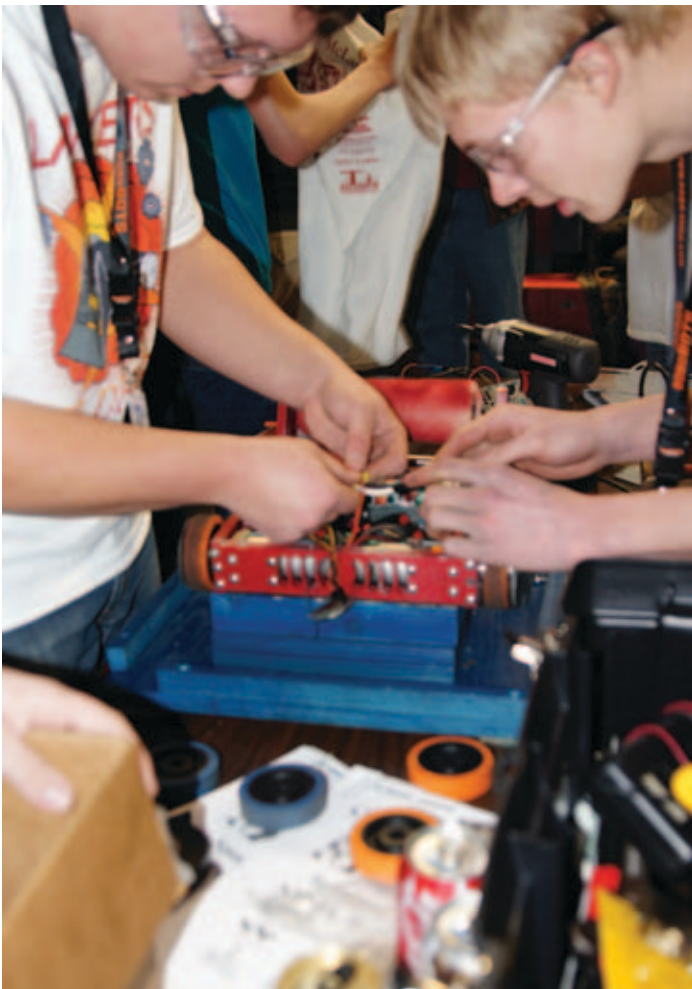
U.S. manufacturing is back. That's been the conventional economic wisdom now for several months, and there's plenty of proof to back it up. —p21

## **NTMA PARTNERS WITH CITY OF AKRON TO LEAD INTERNATIONAL TRADE MISSION TO GERMANY**

Hannover Messe and Bauma Construction Shows toured by NTMA and Akron Chapter members. —p29

## **SECOND ANNUAL NATIONAL MANUFACTURING DAY SLATED FOR OCT. 4, 2013**

Factory Tours Urged to Raise Awareness of Skilled Career Options. —p34



## **STUDENTS DO BATTLE WITH THEIR ROBOTS**

JUDGES SPURRED ON COCHRANTON HIGH SCHOOL'S MECHANICAL COMPETITOR SHOCKWAVE DESPITE A LAST-MINUTE MALFUNCTION THAT CAUSED ITS WEAPON TO FAIL AND BILLOW WHITE WISPS OF SMOKE IN THE FINAL HOUR OF THE SEVENTH ANNUAL ROBOBOTS COMPETITION. —p8



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## CHAIRMAN'S CORNER

ROBERT MOSEY / NTMA CHAIRMAN OF THE BOARD

NTMA's theme for 2013 is "Stewardship of the Manufacturing Industry". Our four main objectives are; Membership Value, Industry Advocacy, Workforce Development, and Governance. As I travel this year and visit many of our chapters, I will be reporting to you all of the great stewardship activities that are occurring across the United States.

Our very first "official" chapter visit was in December of 2012. JoAnn and I had the pleasure of visiting the Connecticut



Frank Dworak, Bob Mosey and Bruce Dworak

Chapter where Chapter Executive Daryl Hagopian and Chapter Vice President, Jim Bowtruczky of Horst Engineering & Manufacturing Company, escorted us on our shop visits. We first visited Bruce and Frank Dworak



Bob Mosey at Horst Engineering with Scott Livingston

at Hobson & Motzer, Inc. This wonderful family business is in the process of succession with Frank transferring the day to day operations over to the very capable hands of son Bruce. This is a great example of Stewardship of Governance at its best. Bruce is also very active in the local training and apprenticeship programs.

Second we visited Horst Engineering & Manufacturing Company where Scott Livingston gave us a tour of their third generation company. As well as running

a very successful company, Scott takes the time to be active politically in advocating manufacturing to their local representatives. The chapter as a whole is very active in lobbying not only at the local but at the national level with participation on NTMA's Government Affairs Team. Great Industry Advocacy!

The Connecticut Chapter is very active in Workforce Development and has a great video on their website called "Your Future in Manufacturing" focused on inviting young people into our industry. Partnering with a local technical center, they have launched an incumbent worker training program where the chapter member employees can receive industry specific courses at reduced rates.

JoAnn and I attended the Los Angeles Chapter Installation of Officers event in January, 2013. These are my Homies, so I am careful to not brag too much. Let's just say that the NTMA Training Centers that were started by the chapter 45 years ago are thriving. They produce 600 entry level machinists per year with a 92% placement record. This is unheard of in any vocational school. They also provide Advanced Training courses that educate current employees in CNC, Advanced CNC, Master Cam, Inspection and more. NIMS is an important addition to their curriculum and have awarded over 900 NIMS Certificates! Very impressive!

My next chapter visit was to the Florida West Coast Chapter. Chapter President, David Outlaw of Cavaform International, LLC was my host on this trip. Dave first escorted me to Plasma-Therm where Luis Gomez,



Dave Outlaw, President of the Florida West NTMA Chapter, Luis Gomez and Bob Mosey

Chapter Treasurer, gave us a tour of both Plasma-Therm and Rev-Tech, their captive machine shop. Luis was originally tasked with setting up Rev-Tech and reached out to the NTMA to net-

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# THE RECORD

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work with area machine shops that could help him achieve his goal of producing the parts needed for Plasma-Therm's equipment. This is a great example of Membership Value. Networking is always number one on surveys yet it is very difficult to measure in dollars.

Next we visited H. & S. Swansons' Tool Company where Chapter Vice President Alan Burgess gave us a tour and explained all of



**H&S Swansons' Tool**

the great improvements that are being made in their company. This company is very impressive indeed. Alan had been involved in the NTMA in the Boston Chapter for many years and carried the value he found there to his new job at H. & S.

Swansons' Tool Company. He spoke very highly of the NTMA Purchasing Fairs and how much business he had found by utilizing the fairs. Even at the chapter meeting that evening, he spoke about how successful the purchasing fairs had been for him and gave advice on how to make the most from attending. Alan encouraged all to attend the upcoming Purchasing Fair in Indianapolis on



**Dave Outlaw and Bob Mosey**

May 16-17, 2013. More Membership Value! Dave then took me to see his company, Cavaform International where they manufacture molds for the plastic injection industry, specializing in long and round elements. Dave himself is very active on the advocacy front especially when it comes to workforce development. He works closely with the local government to keep manufacturing in the forefront. Dave describes the most current efforts this way; "We are currently working with the economic development councils of the Tampa Bay area, the technical schools and colleges on a collaborative lab to redefine our needs in an effort to rejuvenate the manufacturing base in the area". Not only is Dave being a good steward in Workforce Development, he is also a great advocate of our industry.

Under Governance, the Florida Chapter is forming a committee to review their bylaws. The current board has realized that the bylaws need to be brought up to date and is working to-

ward that goal.

One of the chapters's shining star companies, SMT, owned and operated by Past National Chairman Roy Sweatman and his daughter Shannon Sweatman is taking industry awareness to the next level. They are



**Past NTMA Chairman Roy Sweatman, Bob Mosey and Shannon Sweatman**

working with local groups and hosting personal tours to the students in an effort to make them aware of all the opportunities in our industry. They are also very involved in the NRL. As many of you already know, Roy was recently re-appointed to the National Manufacturing Council. We couldn't have a better person representing us at the National level.

All of these chapters and many of their members are being great Stewards of our Manufacturing Industry! Keep up the great work!

Next month, I will report on our visit to the North Western Pennsylvania Chapter. Then on to Pittsburgh to attend their very successful Bots IQ contest where over 55 teams will compete to see which high school team has the best robot! After Pittsburgh comes the Legislative Conference. Hope to see you there! In the mean time, keep up the good work in your own chapters and communities!

Peace.

A handwritten signature in black ink, appearing to read 'R. Mosey'.

**ROBERT MOSEY / CHAIRMAN**





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# Students do Battle with their RoboBOTS

BY KONSTANTINE FEKOS, MEADVILLE TRIBUNE



Judges spurred on Cochranon High School's mechanical competitor Shockwave despite a last-minute malfunction that caused its weapon to fail and billow white wisps of smoke in the final hour of the seventh annual RoboBOTS competition late Saturday afternoon at Meadville Area Senior High School.

Shockwave rode its namesake to an undefeated winning streak, trumping Union City Area High School's Flatliner, a wedge-shaped robot that pulled an upswing from the elimination bracket to second place in the double-elimination tournament sponsored by the National Tooling and Machining Association's northwestern Pennsylvania chapter.

"We were relieved," Cochranon student Adam Field said after the judges' ruling. "We got lucky. It feels really good."

Flatliner entered the arena battle-scarred from its long journey to the 69th match, but refused to kick the bucket, instead spinning circles around its opponent, which hardly suffered a scratch throughout the day, only coming close to a bitter defeat when its drum weapon failed to rotate in the final match.

Union City's team, competing for its second year, watched with a focused intensity as its battling BOT suffered a series of flips and chips, having been thrown up into

the air while its exterior was chipped away.

Shockwave initially blasted through its competition until its last fight, when the metallic gladiators kept getting stuck on one another, causing several time-outs in which the referee intervened and disengaged them.

"I'm completely proud of the way they handled themselves," said Chris Yost, Cochranon's team coach, who overcame his initial worry after hearing the final outcome. "I can't wait to see how much further they go."

Cochranon students agreed Shockwave may not have lasted the full duration of the match on full juice, but assured themselves they could drive it to the end with a solid, defensive stance.

"It's about strategy and a good driver," said Cochranon team member Kali Miller. "The design came about through lots and lots of research."

In addition to first place, her team took home the special award for Best Documented, having fulfilled to the fullest potential the competition's new requirement for engineering designs to be submitted pre-competition.

"This is the first year we required every team to have a documentation package, just like in the real world," said Tami Adams, former NTMA director. "If they planned

to use the same BOT as last year, they had to submit a re-engineering plan to prove its new modifications."

Despite the roaring crowd and each team member's adrenaline rush fueled by clanging steel, RoboBOTS sponsors and coordinators strive first and foremost to interest local students in technical education careers.

With 35 teams from 19 schools competing for more than 1,400 spectators, event coordinator Brian Deane of NuTec Tooling Systems Inc. and Ken Kuhn, NTMA president and owner of Kuhn Tool & Die Co., are confident the point gets across.

"It's an incredible event," Kuhn said. "We've had a pretty good buy-in, not just from tool shops, but from the community, which really stepped up to make this event happen."

Despite the action and excitement in the RoboBOTS arena, Kuhn believes the most important happenings occur in the teams' surrounding work stations.

"By working through problems and pulling together to make this happen, the students learn the value of one another," he added. "Hopefully we can draw a couple of kids into machining while we're at it."

Deane and Kuhn agreed this year's event has produced exciting bouts and a turnout testament to the event's ever-grow-



ing popularity.

"It's been a great day," echoed Vernon Township Supervisor Tim Mullen, who coached one of Meadville High School's six teams. "Even in the height of competition, all these kids are helping each other. Teams helping teams; that's the important thing."

"It's a smart sport; these kids are cheered like athletes," said Congressman Mike Kelly, translating students' excitement into good news for the machine industry's future. "When it gets recognition like this, we all win."

In addition to local bragging rights, first- and second-place teams have the option to advance to the National Robotics League Championships in Indianapolis, travel expenses paid.

Conneaut Area High School (CASH) students made the trip last year after winning the RoboBOTS tournament with spinning BOT Terminator, which entered Saturday's battle matchups, only to be

wiped out by The Eraser, a product of their younger counterparts from Conneaut Lake Middle School.

"It was pretty cool; they got us up in the air," said Mike Shimkanin, CASH coach. "There's a lot of luck involved. You never know what can happen."

The Eraser scrubbed its way through the elimination bracket to place third overall. Not too shabby, considering the first-time BOT-builders didn't even think they'd make it that far.

"We got lucky in the second round," said Griffen Osborn of Conneaut Lake Middle School.

Despite losing the title, CASH student Justin Sobieski says the best part about competing is "being able to design things, see other designs and improve on your own work."

"You can't forget the battle, too," teammate Jeremy Dygert said.

Team coaches often find sponsorship

and support the most significant aspect of the event and key to its continuance.

"The tool companies put their time and thousands of dollars into this event," Shimkanin said. "Without the support of the tool companies and the NTMA, none of this would be possible."

Also deserving credit are the faculty members who spend months of afterschool hours mentoring and coaching their students through the arduous process of planning, preparation, ordering and construction.

"Most of these teachers put in extra hours," said Conneaut Lake Middle School coach Jeff Hans. "That's a lot of time and energy keeping kids on track, but it's all worth it in the end."



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New St Louis member Loudon Machine Inc., receiving their new member plaque from St Louis President Bill Bachman,



L-R Howard Stuemke, Loudon Sales, Noah Brandenburger, co-owner, Nick Berilla, Hartwig Inc. St Louis recruitment team leader, Boone Brandenburger, brother and co-owner.

Picture courtesy of David Lippe, Mid-America Commerce and Industry Magazine

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Rich Ditto – Fredon Corporation “The NTMA is once again establishing itself as a leader in Workforce Development, Educational Training and Textbook materials, as NTMA-U offers manufacturing E-Learning that is filling a void in relevant Workforce Development. Add to this outstanding on-line training, the high quality revisions of NTMA Textbooks such as “The Technology of Manufacturing Blueprint Reading for Machinist Training” that the NTMA Education Team just approved for publication, and completed work on in December 2013, and it appears to be a

“New Day for the NTMA”. The Technology of Manufacturing Blueprint Reading for Machinist Training textbook was shared with several employees within Fredon Corporation to get their feedback, and all were highly impressed at the textbook quality, format, and content. Congratulations NTMA Education Team on a job well done.”

NTMA-U exceeds the 576 hours of Technical Training required by the Federal Bureau of Apprenticeship by offering 600 hours on on-line training. NTMA-U has just been recognized as an SME “Platinum Education Center of Excellence”. NTMA-U offers coursework that is tracked to NIMS outcomes, and NTMA-U offers 21 articulated College Credits from the University of Akron.

For more information contact NTMA Vice President – Ken McCreight at 216-264-2834



## NATIONAL ROBOTICS TEAM LEADER – STEVE TAMASI PRESENTS PROGRAM OPPORTUNITIES TO AKRON PUBLIC SCHOOLS, REGIONAL COMPACTS, AND PARENT TEACHER ASSOCIATIONS.

On Tuesday, March 26th, National Robotics Team Leader Steve Tamasi and Program Director Maureen Carruthers presented to over 60 participants at the Akron NTMA Chapter Membership meeting, in Fairlawn Ohio

This presentation is the first of the “road show” that the National Robotics League will be making to those NTMA Chapters interested in starting their own Robotics Program or those NTMA Chapters who would want the latest information on how the NTMA is marketing and promoting careers in manufacturing through STEM education programs, partnerships with parents and PTA associations and public school systems.



Tamasi and Carruthers focused on the merits of the NRL program and the role of NTMA member companies. One of the major requests from school systems and parent

groups is how do they partner with NTMA member companies to insure the mentoring aspects of the NRL program and the “hands on experience” students are looking for within a safe environment.

Six different public schools systems from the Greater Akron Region were present along with representatives from University of Akron. Key Educators from the Vocational Technical High Schools were present and very excited to partner with the NTMA and National Robotics League.

If your NTMA Chapter is interested in having the National Robotics League present to your chapter about the new initiatives happening in robotics, please contact Maureen Carruthers at [mcarruthers@ntma.org](mailto:mcarruthers@ntma.org). If you are a member at large and want to learn more, follow us on facebook and linked in.





## CASTING BRAZE PLUGS LASER CUT INCLUDING PRECISE HOLES

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Advanced Laser Technologies' Casting Braze Plugs are priced according to configuration and quantity. Price quotations are available upon request. The firm is General Electric approved for laser cutting/drilling & airflow.



## ASSISTANT SECRETARY OF THE DEPARTMENT OF LABOR, JANE OATES, MAKES VISIT



Master Machine receives visit from the Assistant Secretary of the Department of Labor, Jane Oates. She was in Chattanooga speaking at the ATEA (American Technical Education Assoc) and the local Career Center, and stopped by for a shop tour.

Master Machine received a training grant in 2012 and won the State of Tennessee DOL "Jim Alford" Award for Excellence in Workplace Training. Ms. Oates is over the \$12 billion budget that includes workplace training.





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## GROWING OUR PRESENCE IN THE WEST - UTAH NTMA CHAPTER HOSTS NATIONAL STAFF

In the beginning of April, NTMA Director of Membership and Business Development, Jeff Walmsley partnered with Chapter leaders to retain, recruit and host an event for members. Walmsley was joined by Chapter President, Matt Wardle, Vice President, Rick Strehl and Chapter Executive Lynne Bextell.

The trip began with a stop at Condor Manufacturing. Owner, Jay Tardiff, is a newer NTMA member (end of 2012) who joined the NTMA with the intent to network. Originally from New Hampshire, Tardiff came to Utah to ski and never left. Since he joined NTMA, he has rarely missed a Chapter meeting and has been able to connect with longstanding Utah members. Like most members, Tardiff is facing an issue in finding skilled labor. Chapter President Wardle quickly offered a seat for Tardiff on his local education committee. Walmsley and Strehl spoke of NTMA-U and the assistance the NTMA online employee aptitude test could provide.

Next visit was with two budding entrepreneurs, Nathan Woodward and Stuart Fetzer. Owners of recently purchased Valdez Machining, Woodward and Fetzer specialize in making a number of parts for the Department of Defense. A perfect fit the NTMA insurance aerospace rider, Wardle and Walmsley both questioned if they were utilizing the cost-saving benefit. They were not—but obviously will be now! Currently looking to relocate to a different building, Woodward and Fetzer had a meeting with local bank representatives immediately following ours. As the banker shuffled in, the NTMA team was onto their next meeting.

Kyle Ellis and Chris Johnson, another

young entrepreneurial team just started Blue Sun Products, LLC dba Contract Tooling. Although they were not yet NTMA members, they had both attended several local Chapter meetings through invites from other members, especially Lean Werks. Looking for advice and cost-saving benefits, after talking with Walmsley and the Utah Chapter team, Ellis and Johnson decided to take the plunge and become members. A decision they surely will not regret.

Not far away from the newest NTMA member, Contract Tooling was Lean Solutions. Owned by Eric Satterthwaite,



Lean Solutions definitely lives up to their name. Satterthwaite, a former consultant for a number of years in California, grew tired of seeing people profiting off of his knowledge and made the decision to start his own business. Satterthwaite has the knowledge and know-how to optimize production of various parts from most



smaller, fairly basic machines. He was even able to weather the storm when he created an entire cell in his shop for a job that did not pan out. His savvy business sense was actually able to keep that cell at over 80% capacity—a feat that was awe inspiring to the NTMA team.

The day ended with Walmsley and the Utah Chapter team meeting at Wardle's business, JD Machine to debrief on the meetings that day and plan for the Chapter Board Meeting and Member Meeting the next day.

The next morning, Walmsley was invited to participate in the Chapter Board Meeting. The Board discussed various event ideas, board structures and recruitment strategies. Immediately following the board meeting was a member Chapter meeting that featured presentations by NTMA insurance representative Todd Erickson, Grainger national account manager, Eugene Kim and NTMA's Jeff Walmsley. Roughly 30 NTMA members and prospects attended the event to learn how to maximize the value of NTMA membership.

Everyone left the meeting

more energized, engaged and informed and how they could and should be utilizing their membership. The trip was a resounding success and Utah is definitely a Chapter that National looks forward to visiting again sooner than later!



# HEISLER TOOL TO HOST PRECISION MACHINING INSTITUTE IN EFFORT TO PRODUCE MANUFACTURING WORKFORCE

BY ELIZABETH LUNDBLAD



Maribeth Joeright/MJoeright@News-Herald.com Tim McCord and his son Jason, left, are starting a 16-week educational program to train people in manufacturing. The Bridgeport milling machine is one piece of equipment that will be used in the training.

Getting a job can be a tough feat in a slow economy, but a Willoughby manufacturing company is trying to push people into striving for long-term careers by opening an in-house training school.

Classes for Precision Machining Institute, located at Heisler Tool, 38228 Western Parkway, begin May 6, and directors Tim and Jason McCord hope to reinvigorate a lagging manufacturing work force in Lake County.

“We wanted to train individuals to become machinists, but we wanted to start them on a path to a career, not just a job,” Tim McCord, owner of Heisler Tool. “The idea was to bring in any individual who wants to learn that is either a recent high school grad or unemployed.”

At the recent launch of the newly formed Western Willoughby Lake County Chamber of Commerce, officials said manufacturing remains an integral part of the region’s business success.

But the companies are dealing with a severe shortage of knowledgeable and qualified workers and neighboring manufacturers end up stealing employees from one another.

Bob Fiala, chamber co-president, said he was excited about Heisler Tool’s new school and that the opening was a good thing for manufacturing in the community.

It wasn’t the easiest road to open the school.

“We started thinking about it years ago. The holdup was always how are we going to teach the classroom parts. That’s because we’re not schoolteachers,” Jason McCord said.

Help came in the form of discus-

sions with Willoughby’s Mayor David Anderson and Ken McCreight, vice president of the National Tooling and Machining Association, a trade organization representing precision and custom manufacturing industry throughout the United States. NTMA is based in Cleveland/Akron.

“In conversations with Ken McCreight he said, ‘I have all the classroom stuff but I don’t have a shop or a building or the equipment,’ ” Jason McCord said. “When I went through the apprenticeship program, Ken was actually my instructor for the classroom part. He took all of his old lessons and that’s how he came up with NTMA-U.”

When they’ve completed the 16-week course, students at Precision Machining Institute will have completed 96 online class hours and 256 lab hours. The cost for the course is \$5,550, and includes books, materials and a machinist tool box with some tools.

“Manufacturing is a huge component of our economy and right now a lot are having a hard time finding people who can step into these jobs,” Anderson said. “We want manufacturing to stay strong in Northeast Ohio and Lake County. Mentor and Willoughby are two of the strongest manufacturing cities in the state. We need people to step into jobs. It’s a great opportunity for people to get the training they need.”

The completed course from NTMA-U is also worth 21 credit hours at the University of Akron, Tim McCord said.

“All of this counts toward your four-year tool and die apprenticeship,” he

said. “What makes us different (from other machining schools) is that: One, the classes are online, and two, you’re going to have all the lab time in the shop.”

Projects created in class will be tools that students can use when they complete the course and find employment, Jason McCord said.

“They’re things that the students could go buy, but if you make it you’re going to have some more pride in it,” he added.

At the end of the 16-week course, Tim McCord said he’ll host an open house and invite all the machine shops and anybody who is looking for a machinist. Through the school’s placement program, which is required by the Ohio Association of Career Colleges and Schools, Precision Machining Institute will help find careers or further education for its students.

“If we have 20 students, we’ll have 40 companies looking for those 20 students. Employers are looking for entry-level machinists with a good training background,” Tim McCord said. “We’re taking a step backwards. We’re going to teach them from the ground up. They have to punch a time card because attendance is crucial. If anybody is going to employ (our students) we’re going to teach them work etiquette and good working habits.”





## THE BROCK BABB MEMORIAL SCHOLARSHIP

The Brock Babb Memorial Scholarship is an annual tuition scholarship created by the: National Tooling and Machining Association in support of students advancing their education, and pursuing careers in manufacturing.

Successful scholarship applicants will receive a minimum award of \$1,000.

The NTMA Education Team shall serve as the selection committee. Only applicants that meet the eligibility requirements will be considered. **MUST BE RETURNED BY MAY 31, 2013**

### APPRENTICESHIP, WORKFORCE DEVELOPMENT, COLLEGE CREDIT

Applicants are requested to read carefully all of the above conditions of this program and submit a fully executed Application by May 31, 2013.

The NTMA Brock Babb Scholarship Fund will be paid upon proof of acceptance into appropriate educational facility as defined above.

Submit all information to:

Mr. Ken McCreight, Vice President  
NTMA Education Team Staff Liaison  
National Tooling and Machining Association  
1357 Rockside Road  
Cleveland, Ohio 44134  
kmcCreight@ntma.org

### ELIGIBILITY REQUIREMENTS:

1. 18 years of age at the time of class start
2. Be a member of a high school class, and plan to attend an accredited educational facility as a full time student; or be a high school graduate enrolled to continue his / her education in a manufacturing industry related discipline. For purposes of this scholarship, a full time student is defined as a minimum of twelve (12) credit hours per semester.
3. Be the son or daughter of an employee of an NTMA Member Company in Good Standing (Owner's family not eligible to apply.)
4. Reside within the United States, and attend an accredited college, or University in the United States.
5. Hold a minimum High School GPA of 2.5
6. Submit a scholarship application and supporting documentation by May 31st of applicable year.
7. Must be nominated by an NTMA Member Company that is in good standing.
8. Provide a written essay stating career goals and why they should receive the scholarship.
9. Provide a resume describing interests, classes, and any work related activities voluntary or paid.
10. Provide two letters of recommendation from business professionals who are aware of their desire to pursue a career in manufacturing.

## THE EDWIN VOBEDA MEMORIAL SCHOLARSHIP

### PURPOSE

The Edwin Vobeda Memorial Scholarship is an annual tuition scholarship created through a charitable donation to the National Tooling and Machining Foundation from the Edwin F. and Mildred Vobeda Charitable Remainder Trust in support of students residing in the Central Time Zone advancing their education in a tool and die apprenticeship program to pursue careers in the tool and die industry. Successful scholarship applicants will receive a minimum award of \$1,000.00 and a maximum award of \$5,000.00 annually. It is the intent of the Foundation to award up to three (3) scholarships annually.

### SELECTION

The NTMA Education Team shall serve as the selection committee, and shall make the final selection of the scholarship recipient from a list of those students making application under criteria outlined in the Eligibility Requirements.

### ELIGIBILITY REQUIREMENTS: All Applicants Must:

Be at least 18 years at time of class start

Be an employee of and nominated in writing by an NTMA Member Company in Good Standing located in the Central Time Zone and enrolled in a registered tool and die apprenticeship program.

Must be a high school graduate and achieved a minimum high school GPA of 2.5.

Submit scholarship application and supporting documentation by May 31st of applicable year.

Provide a written essay stating career goals, and why they should receive the Scholarship.

Provide a written resume describing interests, classes, and any work-related activities voluntary or paid.

Provide two (2) letters of recommendation from Business professionals (employer, teachers, clergy etc.) who are aware of their desire to pursue a career in manufacturing.

### APPLICATION

Applicants are requested to read carefully all of the above conditions of this program and submit a fully executed Application by May 31st of applicable year.

### AWARD

The NTMF Edwin Vobeda Memorial Scholarship will be paid upon proof of acceptance into appropriate education facility as defined above.

### SUBMISSION: Submit all information to:

Ken McCreight  
National Tooling and Machining Association  
1357 Rockside Road  
Cleveland, Ohio 44134  
Phone: 1.800.248.6862; Fax: 216.901.9190  
E-mail: kmcCreight@ntma.org

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### ELECTRICITY

- According to the Edison Electric Institute, necessary upgrades to the United States' electricity transmission infrastructure will cost \$54 billion from 2011 to 2014.

- The United States Energy Information Administration (EIA) reports that increased use of natural gas for electricity generation will drive electricity prices higher as gas prices increase.

- Temperatures in Spring 2013 are forecast to be above normal in most regions of the United States.

### NATURAL GAS

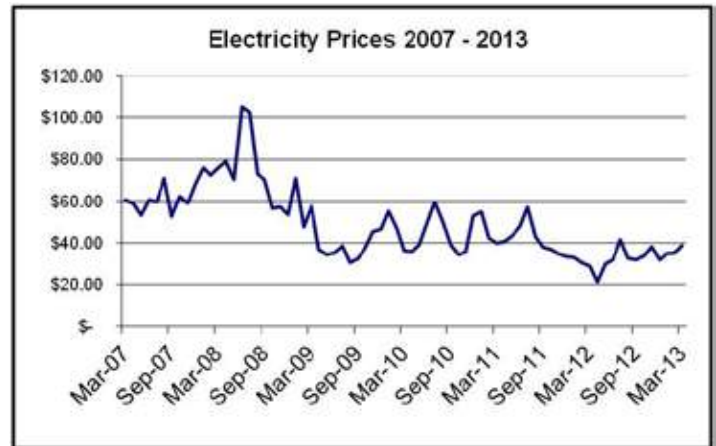
- Gas producers are reacting to 2012's low prices by curtailing drilling. Natural gas rig counts are down 38% in one year. Decreased production = higher prices.

- Shale gas is plentiful, but is becoming more costly to extract and deliver because of regulatory and transportation costs.

- Natural gas in storage recently reached capacity. Withdrawals are expected going forward. As the supply surplus is reduced, prices will increase.

# APPI

## ENERGY



This chart shows that price "bottoms" were hit in 2012. Future prices for 2013—2017 are higher than 2012.

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Source: PJM Day Ahead Averages (\$/mwh)



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## IN MEMORIAM

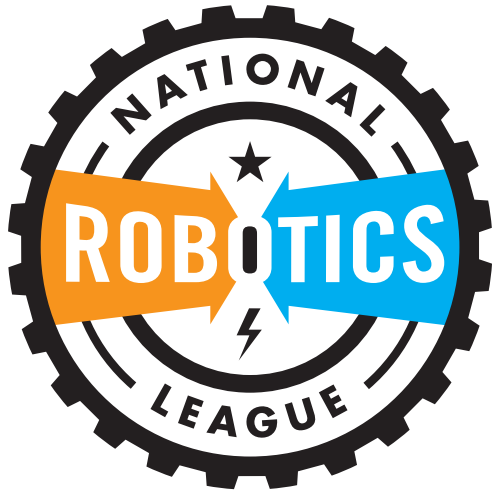
### DONALD DEAN WOLF

Age 85. Married to Betty (nee Goede) for 64 years; beloved father of Barbara Scullin (Len),

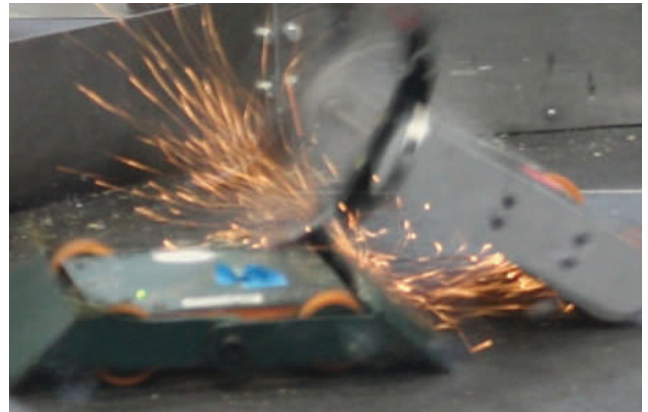
David (Linda), Diane Herzing (Keith), and Lori VanArendonk (John); grandfather of 12 (one deceased), and great-grandfather of three; brother of Louise Hook (Al, deceased); uncle and friend to many. Passed away on April 1, 2013, with family members close by and under the watchful eye of the devoted staff at Kemper House and Holy Family Hospice. Don was a member of the Brooklyn Reformed Church, for 50 years. He was the Regional Membership Director of the National Tooling and Machining Association for 23 years. Don truly loved and enjoyed traveling with his wife, and vacationing at their summer home on Lake Chautauqua with family and friends.



# THE PREMIER NATIONAL ROBOTICS COMBAT LEAGUE



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### WHEN:

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Sunday, May 19: 9:00AM - 12:00PM

### WHERE:

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Join us for an action packed event that will test student's ingenuity as they go head to head with their own mechanical creations in duels of robot combat.

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# NLRB'S Attack on Employers Continues

Every employer, union or not, has to be concerned about recent decisions coming out of the NLRB. What follows is a summary of recent decisions which affect every employer, regardless of size.

## LAWFULNESS OF AT-WILL EMPLOYMENT STATEMENTS

In one recent case, the NLRB's Acting General Counsel issued a complaint where an employee handbook stated the at-will employment relationship could not be changed without the signature of both the employee and a high-ranking company officer. In another case, an NLRB ALJ took issue with the statement, "I further agree that the at-will employment relationship cannot be amended, modified or altered in any way." The ALJ relied on the theory the statements improperly suggest that employees do not have the right to seek union representation or to engage in collective action.

## PROHIBITING EMPLOYEES FROM DISCUSSING AN ON-GOING INVESTIGATION

In Banner Health Systems, 358 NLRB No. 93 (2012), the NLRB ruled an employer's "suggestion" that employees involved in an internal investigation not discuss the matter with other employees violated employee rights under Section 8(a)(1) of the NLRA. The Board left open the possibility of an employer establishing a business justification for the prohibition based on: (1) witnesses' need for protection; (2) evidence is in danger of being destroyed; (3) testimonies are in danger of being fabricated; and (4) there is a need to prevent a cover-up, but it is the employer's burden of proof.

## EMPLOYER CANNOT REQUIRE COURTESY AMONG EMPLOYEE

In Carl Kanauz Motors, Inc., 358 NLRB No. 164 (2012), the NLRB found the following rule issued by an automobile dealer to be unlawful: Courtesy: Courtesy is the responsibility of every employee. Everyone is expected to be courteous, polite and friendly to our customers, vendors and supplies, as well as their fellow employees. No one should be disrespectful or use profanity or any other language which injures the image or reputation of the Dealership.

The NLRB held this rule violated the employees' right to protected, concerted activity. As noted by the dissenting Board member, the NLRB's ruling conflicted with what was "nothing more than a common sense behavior guideline for employee."

## SOCIAL MEDIA POLICIES

The NLRB continues to protect employees' social media postings discussing the terms and conditions of employment, including complaints about wages, hours, supervisors and co-workers. In one case, the NLRB's Acting General Counsel found a social media policy was unlawful where it prohibited employees from revealing personal informa-

tion regarding coworkers, clients, partners or customers without their consent. In another case, the NLRB struck down a policy that precluded the use of an employer's logos and photographs of the employer's store, brand or product. Thus, employers should define prohibited activity and limit it by excluding activity protected by the NLRA

## CONCLUSION

Much like an annual physical, employers would be well-advised to conduct an annual review of employee handbook and policy manuals. As the old saying goes, "An ounce of prevention is worth a pound of cure."



## COLORADO WATERJET ADDS FIVE-AXIS WATERJET CAPABILITIES

BUSINESS PROVIDES STATE-OF-THE-ART MATERIAL SHAPING SERVICES TO CUSTOMERS

Colorado WaterJet Company (CWJ), the leader in abrasive waterjet shape cutting in Colorado, announces the addition of new, state-of-the-art 5-axis waterjet technology to its precision machining and fabrication services. The company's latest machine, the Mach 4C WaterJet from Flow, features the most advanced technology in the industry, and provides the most accurate bevel and 3D cutting capabilities available.

"This machine, combined with our highly-trained and experienced staff, gives us the most advanced material-shaping capabilities in Colorado," says CWJ President Dan Nibbelink.

The Flow Mach 4c's 5-axis capabilities provide up to 60 degrees of motion, which means faster, more intricate precision cutting of any shape, including interior cuts. The machine is capable of shaping virtually any composite material, regardless of thickness, including steel (mild, stainless, tool, high alloy, hardened), aluminum, titanium, brass, copper, bronze, Inconel, Hastelloy®, tungsten, Invar, and stone.

Overall, waterjet technology is more advanced and cost effective than comparative cutting technologies like band saws and lasers. The cold cutting process requires no heat and eliminates hardened

edges, slag and warping. It allows for close nesting of parts for efficient use of material that reduces waste. The computerized, numerically controlled system significantly improves turn-around time and eliminates cutting and processing errors associated with non-waterjet systems.

"This technology is versatile, and opens up many possibilities to our clients in various industries because we can offer highly precise machining of almost any material in any shape or size," says Nibbelink.



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# MARYLAND SMALL BUSINESS OWNERS TELL CONGRESS TO REFORM TAXES

BY NICOLE MACON

Two Maryland business owners pushed their tax reform proposals to help companies succeed and plan for the future at a House Committee on Small Business hearing Wednesday.

R. Samuel Griffith, president and CEO of National Jet Company in Cumberland, and Steve Bearden, president and CEO of Linemark Printing in Upper Marlboro, discussed how tax structures and yearly changes to the tax code influence the way each company operates.

Small businesses are affected more by the country's tax code than larger companies because they pay 67 percent more to comply with the tax code, according to a study by the Small Business Administration's Office of Advocacy.

Some of the tax reform proposals that the Small Business Administration is considering include making the Section 179 Equipment Deduction permanent; expanding cash accounting; changing filing dates for S corporations, partnerships and corporations; and changing requirements for partnerships and corporations.

National Jet is a subchapter S corporation, which means that the company's income is listed on Griffith's tax return. Because of this, Griffith said he pays a higher tax rate than if

the incomes were separate. He also must pay the Alternate Minimum Tax, which prevents him from claiming popular tax credits like the Research and Development Tax Credit.

"So you give us credits for R&D and employing workers who have lost their unemployment benefits and then you take them away because of the AMT," Griffith said in written testimony. "How does this make any sense?"

Many small manufacturers classify themselves as S corporations in order to pass a family-owned company to the next generation. Others use this classification to avoid double taxation of dividends that occur with C corporations, according to Griffith, who also represented the National Tooling and Machining Association.

"No one wants to pay double taxes on hard-earned income," said Griffith, who is also a certified public accountant.

Changes to deductions and credits such as the Section 179 Equipment Deduction can influence how much a small business can invest in its infrastructure. Griffith wanted to purchase a machine last year that was well above the lowered limit for a Section 179 deduction. He ended up purchasing a less-expensive piece of equipment and not hiring two additional workers. A provision passed

Dec. 30 that would have allowed Griffith to purchase the equipment he originally wanted, but it was enacted so late that he could not take advantage of it.

"It is very difficult to plan for the future given such uncertainty in our tax code," Griffith said.

Making Section 179 deductions permanent would also help small printing companies grow and create new jobs, according to Bearden.

"In the environment of a rapidly changing communications marketplace, it is vital that small printers be able to continually modernize their product and service offerings," said Bearden, who testified on behalf of Printing Industries of America.

Simplifying the tax code will allow small companies to increase investment and hire more people, according to Dave Camp, chairman of the House Committee on Ways and Means. "Every dollar they aren't spending on taxes and tax compliance is a dollar they have to invest in equipment, start a new production line, hire a new employee or provide more in wages and benefits."



## HORST ENGINEERING EXPANDS NEAR BOSTON; ACQUIRES STERLING MACHINE COMPANY, INC.

Horst Engineering and Manufacturing Co. has announced it has acquired the assets of Sterling Machine Company, Inc. of Lynn, Mass., a manufacturer of precision machined components primarily for the aerospace industry.

Sterling had been a family-owned company, manufacturing components for the aerospace industry since 1966. The firm employs 33 people. The purchase price was not disclosed. "We are very excited about this acquisition as there is very little overlap in the customers we serve," said Scott Livingston, president and chief executive officer of Horst Engineering. "Like Horst, Sterling specializes in producing close tolerance high precision aerospace components from a wide range of high strength metals and polymers."

Sterling, located at 23 Farrar St., Lynn, Mass., has focused on providing parts for both commercial and military jet engines, and supplies some of the world's leading aerospace companies. "We intend to continue Sterling's operations in Lynn with the same work force," Livingston said. Sterling's president, Robert Struzziero, will remain with the company.

"I have enjoyed a close relationship with Bob for many years and I know that his team makes high quality products," Livingston said. He noted that Horst Engineering's sister company, Thread Rolling Inc., has been a Sterling supplier for more than 25 years. "We will continue to operate Sterling as an independent company, and we welcome them to the Horst Engineering Family of

Companies," Livingston said.

Horst Engineering, a third generation family business founded in 1946, is a contract manufacturer of precision machined components and assemblies for aerospace, medical, and other high technology industries. The company has an ISO9001:2008/AS9100 registered quality management system.

Its core processes include Swiss screw machining, turning, milling, thread rolling, centerless grinding, and assembly. The company has operations in Guaymas, Sonora, Mexico, employing 35 people; and at its East Hartford, Connecticut, headquarters, with 85 employees. Learn more at [www.horst-engineering.com](http://www.horst-engineering.com)



# ONE VOICE PRESS RELEASE: NTMA MEMBER SAM GRIFFITH TESTIFIES ON TAX REFORM BEFORE HOUSE SMALL BUSINESS COMMITTEE

Sam Griffith, President and CEO of National Jet Company in LaVale, Maryland, called today for “a reformed tax code that encourages manufacturing in America and helps our small businesses compete globally in the 21st Century”. Griffith, a member of the National Tooling and Machining Association (NTMA), testified before the House Committee on Small Business at a hearing on “Small Business Tax Reform: Growth Through Simplicity.”

A Certified Public Accountant and former CFO of a subchapter C Corporation, Griffith purchased National Jet in 1992, an internationally known precision micro drilling technology company serving the aerospace, automotive, electrical, medical, and textile industries. National Jet is structured as a subchapter S Corporation, meaning all income flows into Griffith’s personal return. A small specialty contract machine shop, the company has twenty-four employees and has added two new employees in the last four months.

“The National Tooling and Machining Association and I wholeheartedly support tax reform that includes real reform for both C Corporations and pass-through companies,

which make up the majority of small businesses in this country,” testified Griffith. “We desperately need lower rates, simplification of rules and elimination of the sunset provisions in the tax code to allow us to compete globally. It is very difficult to plan into the future when there is such uncertainty in the tax code. No one likes a moving target, and for the last ten years it has been a nightmare to plan.

“We recognize that policymakers face many difficult decisions ahead in reforming the tax code,” said Griffith. “You will have to decide which deductions and credits you will eliminate or keep in place. However, to remain globally competitive, small businesses use several credits and deductions to free up resources to reinvest back in our business. While each year is different, in 2010, National Jet Company reinvested 137% of our net income into the company and in 2011 we reinvested 112% back into the company.

Griffith pointed to a December 2012 member survey conducted by the NTMA and the Precision Metalforming Association in which 200 respondents – small and medium-sized manufacturers from across the U.S. – identified use of the following tax credits

and deductions:

- Section 179 Equipment Expensing
- Bonus “Accelerated” Depreciation
- Research & Development Tax Credit (R&D)
- Section 199 Domestic Production Activities Deduction
- Last-In-First-Out (LIFO) inventory valuation
- Interest Charge Domestic International Sales Corporation (IC-DISC)
- Net Operating Loss (NOL)

“We fully support Chairman Camp’s approach and efforts by others to push for comprehensive tax reform,” concluded Griffith. “Our greatest concern is a seeming obsession with corporate-only tax reform – a path which leaves America’s small businesses and eighty-one percent of U.S. manufacturers behind. I believe we must develop a reformed tax code which encourages manufacturing in America and helps our small businesses compete globally in the 21st Century. We have a stake in this great country and we want our voice heard.”



## NEW I-9 FORM TO GO INTO EFFECT ON MAY 7, 2013

On March 8, 2013, U.S. Citizenship and Immigration Services (USCIS) published an announcement in the Federal Register advising employers that Employment Eligibility Verification Form I-9 has been revised. The key changes to the newly-revised form include new data fields requiring an employee’s foreign passport information (if applicable), and the employee’s telephone number and email address. The format has also been expanded from one to two pages, such that Section 1 (Employee Information and Attestation) takes up the entire first page of the form, and Sections 2 and 3 (Employer Authorization and Re-verification) are found on the second page.

The new form, which is available on USCIS’s website ([www.uscis.gov/files/form/i-9.pdf](http://www.uscis.gov/files/form/i-9.pdf)), denotes a revision date of March 8, 2013 in the lower left hand corner of the form. Although the form is available for immediate use, USCIS will not require employers to use the form until May 7, 2013. After May 7, 2013, all prior versions of Form I-9 cannot be used. Employers should take steps now to ensure that they are using the newly-revised form after May 7, 2013 to avoid civil penalties.

The USCIS noted that the revised I-9 does not need to be completed for existing employees who already have an I-9 on file, unless their employment eligibility needs to be re-verified. The agency cautioned that unnecessarily re-verifying employees’ employment

eligibility could violate the anti-discrimination provision of the Immigration and Nationality Act.

### THE NEW I-9 STILL CONTAINS THREE BASIC SECTIONS:

- Section 1 collects identifying information about the employee, asks him or her to attest to being a citizen, noncitizen national, lawful permanent resident, or alien authorized to work, and asks the employee to provide documentation proving identity and work authorization;
- Section 2 collects information from the employer and the identity and work authorization documentation provided by the employee; and
- Section 3 collects information regarding the employee’s continued work authorization when the documentation in Section 1 or Section 2 expires.

If you have any questions regarding immigration related issues, Littler has a very experienced and well-staffed immigration department that can help with anything from possible terminations, questions, audits and compliance questions raised by the USCIS and DOL, as well as issues raised by customers and contractors requesting verification of your I-9 authorization compliance





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# Is the U.S. Manufacturing Renaissance Real?

BY RANA FOROZHAR AND BILL SAPORITO

U.S. manufacturing is back. That's been the conventional economic wisdom now for several months, and there's plenty of proof to back it up — rising factory output, strong manufacturing production gains, and lower labor costs that make American workers more attractive. Couple that with the natural gas boom underway in the U.S., which many experts believe will lower energy costs for U.S. manufacturers, and you've got a resurgence of a sector that has been shrinking as a percentage of the economy for several decades. "We are probably the most competitive, on a global basis, than we've been in the past 30 years," says GE CEO Jeff Immelt. "Will U.S. manufacturing go from 9% to 30% of all jobs? That's unlikely. But could you see a steady increase in jobs, over the next quarters and years. I think that will happen."

But at least one economic seer, Goldman Sachs' chief economist Jan Hatzius, is throwing a bit of cold water on the idea. He recently released a report, which is getting a lot of attention on the web, arguing that the U.S. "manufacturing renaissance" is cyclical, not structural — meaning, the sector is doing as well as would have been predicted under any circumstances at this point in an economic recovery, and that the gains don't point to a real seismic shift in U.S. manufacturing competitiveness. "Measured productivity growth has been strong," admits Hatzius in the report, entitled "U.S. Manufacturing Renaissance: Fact or Fiction?" "But U.S. export performance — arguably a more reliable indicator of competitiveness — remains middling at best."

It's a very interesting point, and it matters a lot to the broader economy. Nations that do better in manufacturing gain an edge

in the global economy: For every \$1 of manufacturing output in a community, there's another \$1.48 of wealth created. That's why economic advisors to the President, like National Economic Council head Gene Sperling, have been pushing pro-manufacturing policies. But the Goldman report would seem to indicate that the strength in U.S. manufacturing output reflects more the relative weakness of Europe (which is mired in a debt crisis) and Japan, rather than a long-term positive shift in the U.S. itself. "Over the next few years, the manufacturing sector should continue to grow a bit faster than the overall economy," notes the report. "But the main reason is likely to be a broad improvement in aggregate demand rather than a structural U.S. manufacturing renaissance."

Hatzius was on holiday recently and unavailable for comment (we'll be following up with him soon), but one immediate question is whether exports really do provide a more accurate picture, as the report suggests. It may be that more goods manufactured in the U.S. are staying in the U.S. As we've traveled around the country reporting on this topic over the last couple of years, a number of big industrial firms have pointed to growing demand for their products here at home — Caterpillar, which makes an increasing amount of its large earth-moving equipment for domestic mining, agriculture, and energy operations, is a great case in point.

Then there's the question of how to look at the productivity numbers. While U.S. productivity is up over the last several years relative to, say, China, which has been flat (and also suffers from rising wages), the big question is how much more it can go up. We feel there's reason to be bull-

ish on the growth potential there, given how materials science and the evolution of the "industrial internet" are fundamentally reshaping manufacturing in the U.S.'s favor. The once separate steps of designing a product, making or buying the parts, and then putting everything together are beginning to blend — a consequence of technologies such as additive manufacturing and 3-D printing. It means that manufacturing wants to be closer to engineering and design — a dynamic that would likely benefit the U.S., which still rules those high-end job categories. Add the ability to include sensors in every part and process, and you've got a whole new manufacturing ecosystem that allows companies to accelerate product development cycles and deliver more variety and value more quickly to ever more fickle consumers.

Of course, the jobs that are being created aren't your father's (or grandfather's) factory jobs of knocking in four bolts a minute for eight hours a day. The new economics of Made in the USA are built in large part around acquiring cutting-edge technologies ahead of global competitors and then using those new techniques to produce more efficiently on super-automated factory floors. And while all the technology will translate into higher end jobs, it will also mean — barring dramatic growth — fewer jobs overall, especially in the middle. Positions will either be high end, or lower paid, since workers still have to compete with cheaper overseas labor (even with wage inflation in China, it will be years before the Chinese are on par with U.S. wages). It's no accident that many of the new manufacturing clusters in the U.S. are in the South, where unions hold less power. "Yes, manufacturing

is coming back, but it's evolving into a very different type of animal than the one most people recognize today," says James Manyika, director of McKinsey Global Institute, which recently did an exhaustive study on this shift entitled "Manufacturing the Future." "We're going to see new jobs, but no where near the number some people expect, especially in the short term."

It's a sentiment that stands in sobering contrast to President Obama's second term goal of creating a million new manufacturing jobs in four years. Some of the difference may lie in semantics. As Manyika points out, labor statistics underestimate the reality of manufacturing, since they count mainly jobs inside factories. Related positions in, say, Ford's marketing department, or small businesses doing industrial design or creating new software for big exporters don't get tallied. Yet these jobs wouldn't exist but for the big factories. The official 9% of U.S. employment represented by manufacturing belies the importance of the sector to our overall economy. Manufacturing represents a whopping 67% of all private sector R & D spending, as well as 30% of the country's productivity growth.

In short, manufacturing's value can be measured in many different ways. "The ability to make things is fundamental to the ability to innovate things over the long term," says Willy Shih of Harvard Business School and co-author of *Producing Prosperity: Why America Needs a Manufacturing Renaissance*. "When you give up making products you lose a lot of the added value." That's as good a reason as any to care about the future of manufacturing.





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## MEMBER TESTIMONIAL

**"MY LARGEST CUSTOMER THAT I'VE HAD FOR OVER FIVE YEARS CAME FROM ME ATTENDING AN NTMA PURCHASING FAIR!"**

**NTMA CA Member**

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## MEMBER TESTIMONIAL

**"I NEEDED TO START DIVERSIFYING MY CUSTOMER BASE BECAUSE I WAS SO DEPENDENT UPON THE AUTOMOTIVE INDUSTRY FOR MY BUSINESS. I WAS OVER 90% AUTOMOTIVE AND OVER 75% IN MICHIGAN. I STARTED GOING TO NTMA PURCHASING FAIRS AND NOW MY CUSTOMER BASE IS ABOUT 60% AUTOMOTIVE BUT 70% OUTSIDE MICHIGAN."**

**NTMA MI Member**

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## MEMBER TESTIMONIAL

**"ATTENDING NTMA PURCHASING FAIRS HAS GIVEN OUR COMPANY MORE THAN ENOUGH BUSINESS TO PAY OUR DUES FOREVER. I MET ANOTHER MEMBER AT A PURCHASING FAIR AS WE WERE STANDING IN LINE WAITING TO TALK TO A BUYER. SEVERAL MONTHS LATER I GOT A CALL FROM THAT MEMBER THAT HAD JUST LANDED A HUGE CONTRACT THAT HE NEEDED OUT KIND OF EXPERTISE TO FULFILL. WE ENDED UP WITH A LONG-TERM CONTRACT WORTH OVER \$7 MILLION BECAUSE I HAPPENED TO START TALKING TO ANOTHER MEMBER."**

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# EXPLAINING MANUFACTURING TO CONGRESS

A big part of what makes One Voice work is its members' willingness to get involved in Washington issues. As we saw with the Legislative Conference that took place in late April, it is hard to overstate the importance of manufacturers telling their stories in person in Washington to help Congressional members and staffs really understand what's happening in our industry.

The annual fly-in and the participation of NTMA members such as Roy Sweatman on the U.S. Commerce Department's Manufacturing Council are good examples of getting our voices heard in Washington. Another path is to testify on Capitol Hill, telling your story straight to the Congressional committees that formulate the laws of the land.

In mid-April, NTMA member Sam Griffith, President and CEO of National Jet Company in LaVale, Maryland, and a Certified Public Accountant, testified before a House Committee on Small Business hearing on "Small Business Tax Reform:

Growth Through Simplicity." Sam called for tax reform that "encourages manufacturing in America and helps small businesses compete." Drawing on survey data from NTMA and PMA members, Sam educated the committee about the need to simplify the code and the importance of a number of credits and deductions for small businesses. Thanks for pitching in, Sam!

Our Washington team's efforts to educate members on critical issues like tax reform don't stop there. The Franklin Partnership compiled an extensive document of comments for the House Ways and Means Committee on tax reform. The comments, which the committee circulated publicly, summarize the need for C-Corp and Pass-Through tax reform, why small manufacturers are so often structured as Pass-Throughs, and the deductions and credits used most by small and medium manufacturers.

81% of all manufacturers and 70% of all NTMA members are structured as Pass-Throughs, paying taxes at the just



increased individual rates. If Washington moves forward with C-Corporation-only tax reform, it will leave behind over 80% of U.S. manufacturers. With the stakes so high, we're making sure our messages get through!

Manufacturers can make a difference in Washington, but only if they participate in the process. NTMA members can give unlimited corporate or individual contributions to the NTMA Government Affairs Administrative Fund which supports the work done by The Franklin Partnership and Policy Resolution Group at Bracewell & Giuliani LLP. Additionally, NTMA members can make limited personal donations to the Committee for a Strong Economy (CFASE) PAC, which supports pro-manufacturing Congressional candidates.



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# THOUGHTS ON LEADERSHIP INSPIRED BY A TEAM OF DESTINY

BY ERIK SKIE

The Baltimore Ravens were arguably one of the weaker playoff contenders. They had lost four of their last five games, and pundits were hardly acknowledging them as a serious Super Bowl possibility. A few weeks later, Baltimore emerged as Super Bowl champions. From this unlikely victory, leaders in every endeavor can find inspiration and motivation to face challenges and overcome incredible odds.

I'll be honest, Ravens linebacker Ray Lewis is not my hero, some of his off-the-field actions don't make him an easy man to hold up as a role model. However, his actions leading up to the Super Bowl have inspired some interesting thoughts about the impact of confidence on performance. Lewis' statements about Baltimore being a "team of destiny" helped rally a struggling team and gave them a purpose that fueled their efforts and elevated their performance. The result was that the Ravens pulled together as a team and emerged victorious.

## PART OF SOMETHING BIGGER

When Lewis talked about the Ravens as being a team of destiny, he touched on a common desire in all of us. Everyone, deep down, wants to be part of something bigger than themselves. When you believe you make a difference, you are motivated to fulfill that belief.

No story illustrates this fact better than President Kennedy's visit to the NASA space center in 1962. Spotting a janitor carrying a broom, the president interrupted his tour, walked over to the man, and said, "Hi, I'm Jack Kennedy. What are you doing?" The janitor responded, "I'm helping put a man on the moon, Mr. President."

Everyone's contribution is important in a true team effort.

Business owners and leaders must provide a sense of direction and purpose for their teams. Am I making automotive parts on a shop floor or am I improving the safety of automobiles for the families that drive them? As an owner, that sense of purpose motivated you to take enormous risk to start your business and build your dream. Sharing the passion of that dream with your team can motivate them to pursue your shared goals with the same intensity.

## THE POWER OF SELF-CONFIDENCE

Whether you are a linebacker, a quarterback, or a CEO, a good leader knows that a clear sense of purpose, combined with confidence, will elevate the performance of those around you.

After the recent recession and the daily dose of dour economic news, all employees can use a shot of confidence. Business is always a challenge, and it always will be. In the absence of affirmative messages from leaders, people tend to obsess about the difficulties in front of them and lose sight of the progress they are making.

Confidence is contagious. You understand the hurdles in front of you, yet you have chosen to stay in the game. Share that confidence and your belief in your people on a regular basis. Like a coach or a team captain, share it often. People look to a leader for direction, inspiration, and the confidence to persevere through day-to-day challenges. More importantly, a leader can inspire those who will become future leaders.

## LEADERS MAKE A DIFFERENCE (AND THEY COME IN ALL SHAPES AND SIZES)

Some leaders are vocal; some are quiet. Some are solitary; some are great collaborators. Ray Lewis is merely one example of a leader. His contribution to his team extended well beyond his individual talent as a linebacker. He understood that his actions could impact the players on his team as well as the entire organization. You can debate his methods, and you can question some of his personal choices, but the bottom line is that he was able to inspire his

teammates to see beyond the challenges in front of them and keep their eye on a bigger goal.

Vince Lombardi once said, "Individual commitment to a group effort — that is what makes a team work, a company work, a society work, a civilization work." In the end, we may not have a Vince Lombardi as a leader in our organizations. We may not have a Ray Lewis either. What most companies have are human beings — imperfect people — who are capable of making a difference, capable of inspiring, capable of stirring people to attempt to accomplish extraordinary feats.

Leading is hard, and it requires enormous reserves of energy to guide people through life's challenges. However, if you can inspire confidence within the members of your team, the effects are difficult to hold down.

Just ask the San Francisco 49ers.



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# NTMA Partners with City of Akron to lead International Trade Mission to Germany

HANNOVER MESSE AND BAUMA CONSTRUCTION SHOWS TOURED BY NTMA AND AKRON CHAPTER MEMBERS

From April 7 through 17th, the NTMA took a trip across the pond to Germany with eight member companies, leadership from a chapter and executive staff to further develop business opportunities at the world's largest trade show for precision manufacturing at Hannover Messe and construction equipment and Bauma in Munich Germany.



**NTMA Members at Hannover from left to right: NTMA President Dave Tilstone, Steven Schler (Akron Chapter) Scott Buie (Overton Industries) Reid Leland (LeanWerks/Utah Chapter), Grady Cope (Reata Engineering/Rocky Mountain Chapter), Craig Blackett (Utah), Joe O'Dell (Plano Machine, Dallas), John Belzer (TCI Precision, LA Chapter), Dave Razzano (Fulton Industries/Michiana Chapter)**

The National Tooling and Machining Association continues to focus on opportunities and programming to promote business development and positively impact the bottom line of its member companies. Different levels of success have been made both on the national and chapter levels. The NTMA continues to invest in its relationships with its chapters, which is now further exploring new program development and opportunities for all NTMA members.

An example on the chapter level is with the Akron NTMA. The board and their chapter executive have been working in tandem with their regional development authority and municipal partner, The Greater Akron Chamber

of Commerce and the City of Akron, to assist in economic development activities that result in more growth for NTMA Member companies, more jobs for the Akron region. This strategy has been in place for the past two years. It manifested itself in 2013 with a co-operative trip, with the NTMA, to Hannover Messe Trade Show in Hannover, Germany. Together with President Dave Tilstone and his extensive background in international business, new programming is under review for all NTMA members.

The City of Akron has reaped rewards of this 20 year strategy with over 500 million dollars in investment, jobs and economic development. A public/private partnership is the strongest investment strategy going abroad. This approach could potentially maximize and leverage the strength of the NTMA and its members and could further solidify member retention and member growth. "The lessons NTMA members can learn on international stage from the growth and development strategies that the City of Akron has under its belt, is enormous" stated Steve Schler, president and owner of Pro-Mold Gauer, Akron NTMA member and chapter president.

Another page out of this play book is customer diversification with new markets in Europe, China, and Mexico. Through relationships with our President, Dave Tilstone and Business Development Consultant Dan Bagley, international trade missions have been organized with NTMA members to get exposure to new markets outside the domestic US.

During April 7-17, 2013, eight NTMA member companies, Scott Buie from Overton Industries (Indiana Chapter), Grady Cope of Reata Engineering



**German Chancellor Merkle and Russian President Putin open 2013 Hannover Trade Show in Hannover Germany**

(Rocky Mountain Chapter), Reid Leland and Craig Blackett of LeanWerks (Utah Chapter), Dave Razzano of Fulton Industries (Michiana Chapter), Joe O'Dell of Plano Machine (Northern Texas Chapter), John Belzer of TCI Precision (LA Chapter), Steve Schler of Pro-Mold Gauer and Dave Sattler of Sattler Companies (Both Akron NTMA Chapters), all participated in an international business development trade mission to Hannover and Munich, Germany. Two international trade shows, Hannover Messe and Bauma Trade Shows were held. Emily Lipovan, Managing Director of the NTMA and Chapter Executive of the Akron NTMA Chapter led the first phase of the trip with Hannover Messe and concurrently worked with the State of Ohio, Team NEO and City of Akron with their business development work. Lipovan also staffed the shared booth in Hannover Messe on behalf of the NTMA.

The week started with opening ceremonies with Chancellor Merkle of Germany and Partner Country, President Vladimir Putin of Russia, giving speeches on the importance of manufacturing and technology. Chancellor Merkle challenged the crowd that they continue to look to the USA for technology, innovation and growth and highlighted the areas of software development, the internet and use of computers within manufacturing.

The week continued with the NTMA sharing a booth with the City of Akron in the Energy Building. Many inquiries were made by European companies interested in identifying new suppliers in the USA and investing in America with a new plant. Lipovan participated on visits with a Russian Steel Company looking to expand



**Akron Mayor Don Plusquellic, Slovenian business investors and NTMA Managing Director Emily Lipovan at Hannover Messe.**

CONTINUED ON — P30



into the American market, a Polish company who is looking for a distributor for its pumps and an Italian company wanting to build a second plant for the manufacturing on electric coils. The NTMA Staff worked closely both with the trade show staff of Hannover Messe and the German Trade Organization. NTMA members received a briefing on markets, opportunities and strategies for Hannover Messe. NTMA members mined the trade show for new customers, planted seed and planned to return in 2014.

"I thoroughly enjoyed the time we spent together in Germany...I intend to visit you all and further explore the partnering opportunities we discussed as we traveled about. The network we built with each other is one of my greatest take aways from the trip. It's like an AA support group – "Hi, I'm Reid and I'm a shop owner." Reid Leland, president and owner of Leanwerks, Inc. Utah NTMA member and participant.

NTMA members continue to state that

networking amongst their peers is in the top three reasons of participating in the association. There was a clear consensus from the members who attended that this again was a huge hit.

"I came on this trip with no expectations. Let's just say I have been blown away by the business opportunity in Germany and I continued to be humbled by the intelligence and depth of knowledge of NTMA members." Dave Sattler, president and owner, Sattler Companies, National Secretary NTMA and Akron Chapter member.

The interest in American manufacturing is significant and NTMA was the only US manufacturing trade association present at Hannover Messe Trade Show. Tilstone and business contractor Dan Bagley of B&B Management Labs led the second phase of the trip which took the group from Hannover to Munich for the Bauma Construction Equipment Trade Show. At Bauma, NTMA members got to look at another trade show

that focused on construction machinery, building material machinery, mining machines, and construction vehicles and equipment.

There is current discussion for another trade mission to be led by Tilstone and Bagley to the EMO Show in Hannover, Germany September 16-19, 2013. If you are interested in participating in this trip, please contact Dave Tilstone at [dtilstone@ntma.org](mailto:dtilstone@ntma.org) by May 20, 2013.



Russian Folk Dancers at opening reception with Steve Schler, President of Pro-Mold Gauer.



## CLEVELAND NTMA MEMBERS HOST CONGRESSMAN DAVE JOYCE R-OH-14

Ohio continues to be the battleground state for federal elections even outside of a presidential cycle. With the retirement of tenured Republican Congressman Steve LaTourette, this northeast Ohio district of western Cuyahoga, Lake, Geauga, Ashtabula counties



Congressman David Joyce with Joe Tenebria and son Joe Tenebria, Jr.

is a fighting territory in Congress.

Joe Tenebria, owner of Meyers Precision hosted a CEO Round table with Congressman Dave Joyce and Cleveland NTMA member companies on Tuesday, March 26th. This was an informal roundtable networking meeting that provided a forum for NTMA members to better know the Congressman and visa versa.

Tenebria opened the CEO Roundtable with facts for Congressman that focused on that nearly 71,000 manufacturing employees



Cleveland NTMA Members, National Secretary Dave Sattler at Meyers Precision for CEO Roundtable

at 1,038 manufacturing companies are located within the 14th Congressional District in Ohio. Tenebria highlighted that there are over 638,000 manufacturing employees in Ohio and over 15,200 manufacturing companies in the State context which represents almost 16% of the State of Ohio's economy.

The dialogue that followed with Congressman Joyce reflected that he knows manufacturing well and is a strong supporter on all of our (NTMA) issues, especially those that affect small business. The Congressman serves on the Appropriations Committee, which handles federal funding for all government programs including job training. Also discussed was that Congressman Joyce was recently targeted the top target of Democrats for defeat in the 2014 election. He is working with groups like ours to meet more manufacturers and be prepared to defend this seat for

the Republican party.

Cleveland NTMA members, National Secretary Dave Sattler and Managing Director Emily Lipovan all participated in the conversation with Congressman Joyce and the role that manufacturing plays in our economy and sup-



Joe Tenebria with Congressman Joyce

ply chain, particularly focusing on automotive and defense related. NTMA members shared how long they were in business, family owners and the different industries they serve. A topic that kept on being repeated what a skilled labor force and the difficulty of hiring new employees and getting middle and high school students interested in careers in manufacturing.

The CEO Roundtable concluded with a tour of Meyers Precision.



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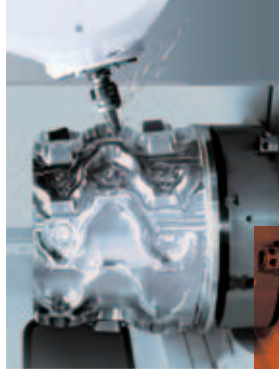
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# NAMII SELECTS PROJECT CALL AWARDEES

## TIMEFRAME FOR NAMII'S NEXT PROGRAM MANAGEMENT REVIEW MEETING AND PROJECT CALL ARE ALSO ANNOUNCED

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NAMII, the National Additive Manufacturing Innovation Institute, awarded on August 2012, and driven by the National Center for Defense Manufacturing and Machining (NCDMM), is proud to announce the awardees of its initial call for additive manufacturing (AM) applied research and development projects from NAMII members. NAMII will provide \$4.5 million in funding toward these projects with the matching cost share from the awarded project teams totaling \$5 million.

"As a collective, NCDMM and NAMII found that the submitted proposals detailed highly innovative additive manufacturing project ideas, featuring applied research and development, efficient use of digital data, high sustainability, and aggressive education outreach and workforce training plans," said NCDMM Vice President and NAMII Director Ed Morris. "The down-select process proved to be intense. NAMII's fundamental objective is to spawn the creation of new, innovative products and the corresponding U.S. jobs to support them based on the unique capabilities of additive manufacturing. NCDMM and NAMII have selected seven projects that best integrate with the four NAMII thrust areas of technology development, technology transition, advanced manufacturing enterprise, and education/workforce outreach."

Jennifer Chase Fielding, Ph.D., NAMII Program Manager and Deputy Program Manager, Defense-wide Manufacturing Science and Technology, Manufacturing Technology Division at Air Force Research Laboratory AFRL/RXMS concurs with Mr. Morris.

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"Today's announcement of NAMII's first project call awardees is the continuation of the industrious and high-energy pace that NCDMM has established for NAMII since its founding a mere seven months ago as the pilot institute for the National Network for Manufacturing Innovation (NNMI) infrastructure,"

- Ralph Resnick, NCDMM President and Executive Director and NAMII Founding Director

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"The launch of these developmental research projects is an excellent beginning to the formation of NAMII's technology portfolio," added Dr. Fielding. "We are thrilled with the level of collaboration between government, industry, and academia and the resulting value that will be brought to the national additive manufacturing community."

The NAMII Project Call, which was released on November 27, 2012, at the Defense Manufacturing Conference (DMC) in Orlando, Fla., was focused on three technical topic areas: Materials Understanding and Performance; Qualification and Certification; and Process Capability and Characterization/Process Control. Proposals submitted to NAMII were to address one or more technical topic areas, but had to address all evaluation criteria.

Additionally, since one of NAMII's key tenets as established by NCDMM is to promote and provide educational outreach and workforce development training, plans for these components had to be integrated into project proposals as well. For example, additive manufacturing curricula will be developed based on project results for high school pre-engineering courses, as well as community college, undergraduate, and graduate university classes.

The seven selected projects span a variety of metals and polymeric

additive manufacturing processes and materials with near-term technical achievements impacting multiple key markets within a few months. Moreover, they represent excellent teaming by NAMII members with more than 30 different participating organizations, including eight universities and 25 industry partners from both small and large businesses. Subject to the finalization of all contractual details and requirements, the approved NAMII projects are as follows:

- "Maturation of Fused Depositing Modeling (FDM) Component Manufacturing"

#### – RAPID PROTOTYPE + MANUFACTURING LLC (RP+M)

Led by small business part producer, RP+M, in partnership with equipment manufacturers and large industry system integrators and the University of Dayton Research Institute, this project will provide the community with a deeper understanding of the properties and opportunities of the high-temperature polymer, ULTEM™ 9085. Some of the key outcomes from this project include a design guide; critical materials and processing data; and machine, material, part and process certification.

- "Qualification of Additive Manufacturing Processes and Procedures for Repurposing and Rejuvenation of Tooling"

#### – CASE WESTERN RESERVE UNIVERSITY

Led by Case Western Reserve University, in partnership with several additive manufacturers, die casters, computer modelers, and the North American Die Casting Association, this project will develop, evaluate, and qualify methods for repairing and repurposing tools and dies. Die casting tools are very expensive — sometimes exceeding \$1 million each — and require long lead times to manufacture. The ability to repair and repurpose tools and dies can save energy and costs, and reduce lead time by extending tool life through use of the additive manufacturing techniques developed by this team.

- "Sparse-Build Rapid Tooling by Fused Depositing Modeling (FDM) for Composite Manufacturing and Hydroforming"

#### – MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

- "Fused Depositing Modeling (FDM) for Complex Composites Tooling"

#### – NORTHROP GRUMMAN AEROSPACE SYSTEMS

Two projects focusing on fused depositing modeling (FDM) are to be co-led developed in close collaboration by Missouri University of Science and Technology and Northrop Grumman Aerospace Systems, in partnership with other small and large companies and the Robert C. Byrd Institute's Composite Center of Excellence. These projects address a key near-term opportunity for additive manufacturing: the ability to rapidly and cost-effectively produce tooling for composite manufacturing. Polymer composite tools often involve expensive, complex machined, metallic structures that can take months to manufacture. Recent developments with high-temperature polymeric tooling, such as the ULTEM™ 9085 material, show great promise for low-cost, energy-saving tooling options for the polymer composites industry. In addition, these projects will explore the use of sparse-build tools, minimizing material use for the needs of the composite process. Composites are high-strength materials that are used in a wide range of industries and can be used for lightweighting, a key strategy for reducing energy use.



• “Maturation of High-Temperature Selective Laser Sintering (SLS) Technologies and Infrastructure”

– NORTHROP GRUMMAN AEROSPACE SYSTEMS

Led by Northrop Grumman Aerospace Systems, in partnership with several industry team members, this project will develop a selective laser sintering (SLS) process for a lower-cost, high-temperature thermoplastic for making air and space vehicle components and other commercial applications. In addition, recyclability and reuse of materials will also be explored to maximize cost savings and promote sustainability.

• “Thermal Imaging for Process Monitoring and Control of Additive Manufacturing”

– PENN STATE UNIVERSITY CENTER FOR INNOVATIVE MATERIALS PROCESSING THROUGH DIRECT DIGITAL DEPOSITION (CIMP 3D)

Led by Penn State University, in partnership with several industry and university team members, this project will expand the use of thermal imaging for process monitoring and control of electron beam direct manufacturing (EBDM) and laser engineered net shaping (LENS) additive manufacturing processes. Improvements to the EBDM and LENS systems will enable 3D visualization of the measured global temperature field and real-time control of electron beam or laser power levels based on thermal image characteristics. These outcomes will enable the community to have greater confidence on part properties and quality using these technologies.

• “Rapid Qualification Methods for Powder Bed Direct Metal Additive Manufacturing Processes”

– CASE WESTERN RESERVE UNIVERSITY

Led by Case Western Reserve University, in partnership with leading aerospace industry companies and other industry and university team members, this project will improve the industry’s ability to understand and control microstructure and mechanical properties across EOS Laser Sintering and Arcam Electron Beam Melting (EBM®) powder bed processes. Process-based cost modeling with variable production volumes will also be delivered, providing the community with valuable cost estimates for new product lines. The outcomes from this project will deliver much needed information to qualify these production processes for use across many industries.

“Today’s announcement of NAMII’s first project call awardees is the continuation of the industrious and high-energy pace that NCDMM has established for NAMII since its founding a mere seven months ago as the pilot institute for the National Network for Manufacturing Innovation (NNMI) infrastructure,” said Ralph Resnick, NCDMM President and Executive Director and NAMII Founding Director. “This initial award of projects marks the beginning of additional awards to come that will accelerate the integration of additive manufacturing into mainstream manufacturing.”

In addition to today’s project award announcement, NAMII is also announcing that it will conduct Program Management Review and Project Kickoff meetings for NAMII members only on April 2-3 in Youngstown, Ohio. Upon conclusion of the Project Kickoff meeting, more details on the project awards will be made available by the respective awardees.

NAMII will also officially announce its next project call at the RAPID 2013 Conference and Exposition on June 10-13 in Pittsburgh, Pa. This next project call will reflect further refined and key strategic topic areas necessary for NAMII to meet the needs of industry partners and enable the widespread adoption of additive manufacturing technologies and innovations.



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# 401(K) HIDDEN FEES NOW REVEALED – BUT DO YOU KNOW WHAT THEY MEAN?

FINANCIAL ADVISOR EXPLAINS 3 FEES TO LOOK FOR UNDER NEW RULE

You wouldn't authorize a company to dive into your checking account at will to withdraw money for undisclosed "services rendered," right?

"But that's what many people are unwittingly doing with the retirement plans," says financial advisor Philip Rousseaux, a member of the esteemed Million Dollar Round Table association's exclusive Top of the Table forum for the world's most successful financial services professionals.

"While a new law now requires disclosure of previously hidden fees applied to 401(k) plans, it's up to you, or your financial advisor, to find and review that information and determine whether the fees are reasonable," says Rousseaux, founder and president of Everest Wealth Management, Inc. ([www.everestwm.com](http://www.everestwm.com)).

By some estimates, up to 90 percent of fees attached to retirement plans are hidden.

As of July 1, 2012, the new Department of Labor rule requires all hidden fees attached to retirement plans and mutual funds be disclosed to employers and employees.

"For many 'average joes' with 401(k) and 403(b) savings plans, disclosure hasn't helped at all," Rousseaux says. "The paperwork supplied can be so dense and full of jargon, they can't make heads or tails of it. I've even heard some financial advisors say

they've seen statements that were nearly impossible to read."

Meanwhile, the Department of Labor is reportedly investigating 50 complaints of violations of the new rules.

Rousseaux offers these tips for examining and understanding retirement plan fees.

## • TRADING FEES:

Trading fees apply to mutual funds, which generally comprise more than half of a 401(k). These previously undisclosed fees occur as brokerage commissions that are charged to the plan holder every time a fund is traded. The charge is a percentage of the fund's value usually ranging from less than 1 percent to less than 2 percent. In some cases, trading fees can double the cost of the transaction. "If your funds are being frequently traded, you may be spending quite a bit on trading fees – in addition to the other fees associated with managing the fund," Rousseaux says. "If you can't determine whether the trading fees are reasonable, you should consult with an independent financial advisor."

## • REVENUE SHARING:

These fees occur when mutual funds and other plan providers pay a third party for administrative services such as record-keeping, which the fund is expected to perform. These may be labeled "sub-transfer," "agent/sub-TA" or "shareholder servicing" and they're built in to the plan's expense

ratio, so it's not a double charge. Again, the idea is to review these charges and ensure they seem reasonable.

## • 12 B-1 FEES:

This term – named for the section in the regulation that allows for it – applies to marketing and distribution costs. They're generally paid as commissions to brokers who service retirement plans and they also may be paid to non-investment professionals such as recordkeepers or insurance companies. Most mutual funds have share classes that provide for varying revenue amounts from 12b-1 fees. Brokers and recordkeepers have an incentive to use funds with 12b-1 fees and to share classes with higher 12b-1 fees because they make more money.

Rousseaux notes that it's also important to look at the expense ratio for your plan, which should now be stated in dollars under terms of the new Labor Department regulation.

"Generally, the lower the ratio, the bigger the fund will grow," he says.

If you find any of these fees are draining an unreasonable amount of your retirement savings, you might consider rolling the money into another savings plan, such as a Roth IRA or fixed-rate variable annuity, Rousseaux says.



## SHAFT MOUNTS PROVIDE DESIGN FLEXIBILITY



A new line of shaft mounts that feature a variety of collar and flange mount designs for manufacturers of conveyors, equipment, and machinery, has been introduced by Stafford Manufacturing Corp. of Wilmington, Massachusetts.

Stafford Shaft Mounts offer many design options including short- and long-length collar sections with set-screw or single and multiple clamp-screw configurations and mounting flanges in different shapes and hole patterns. Suitable for a wide range of applications, the standard line is manufactured from weldable 1117 steel and stocked in 1/4" to 2" I.D. sizes.

Featuring proportionally sized mount-

ing flanges, Stafford Shaft Mounts can be supplied with and without keyways. For added design flexibility, they can be manufactured as specials from aluminum, stainless steel, and other materials and can incorporate custom flanges and mounting hole patterns.

Stafford Shaft Mounts are priced from \$31.25 (list), depending upon size and quantity. Literature and pricing are available upon request.





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## THE SMART WAY TO TRAIN YOUR WORKFORCE

NATIONAL PRECISION MACHINING APPRENTICESHIP TRAINING (TOTAL 600 HOURS) 21 COLLEGE CREDITS AWARDED UPON COMPLETION

### SEMESTER 1 (100 HOURS) INTRODUCTION TO MACHINING / BASIC SHOP MATH / BASIC BLUEPRINT READING

A foundation for study of manufacturing methods, processes, related equipment, and tools of industry, shop safety practices, job planning, feeds and speeds, layout tools and procedures, hand tools and bench work, metal cutting saws, drilling machines, lathes, milling machines, jig bore and jig grinder, surface grinder, E.D.M, and abrasives. Blueprint Reading-related to the manufacture of a working part, lines, views, dimensioning, calculating cutting planes, fraction to decimal conversion, practical and applied basic shop math, constructing a sketch of an engineering drawing, auxiliary sections, symbols, and broken lines.

### SEMESTER 2 (100 HOURS) INTERMEDIATE MACHINING / INTERMEDIATE APPLIED SHOP MATH / INTERMEDIATE BLUEPRINT

Provides skills in layout techniques and operations, including calculating bolt hole circles, location of surfaces related by non-right angle triangles, and points of tangency and other related applied shop mathematics. Included is all learning outcomes that are necessary to successfully layout drawing by understanding the proper views from an actual part. Continues with a foundation for study of manufacturing methods, processes, related machining equipment, and tools of industry, requiring the student to understand shop safety practices, job planning, feeds and speeds, precision measuring and layout tools and procedures, hand tools and bench work, metal cutting saws, drilling machines, lathes, milling machines, jig bore and jig grinder, surface grinder, E.D.M, and abrasives.

### SEMESTER 3 (100 HOURS) INTRODUCTION TO CNC / ADVANCED APPLIED SHOP MATH / ADVANCED BLUEPRINT

Computer applications to machining processes. Engineering drawing analysis, using trigonometry to determine programming points; ascertaining implied part dimensions; determinations of machining parameters; calculation of speeds; feeds and tool offset; establishment of work zero and tool home positions. Manual programming of CNC machines using G-codes; tooling and set-up of CNC operations; verification of toolpaths by simulation. Program upload/download, proper collets and guide bushing setting and adjustment, turning tools setting, milling tools setting, ID tools setting, proof running, first part cutting techniques.

### SEMESTER 4 (100 HOURS) CNC OPERATIONS / SHOP MATH / BLUEPRINT READING/GDT

CNC machine controls, setting tools, programming and operations of CNC, and machine limits and capabilities. Fundamentals of work planes and the process of setting work planes, fixture offset, determining work offset shifts, input work offset shifts, writing a CNC mill program. Advantage of using canned cycles in CNC mill manual part programming. Codes and information required to program CNC mill canned cycles. Writing a simple CNC mill program using canned cycles, subprograms, the commands and rules for creating and processing subprograms. The advantages of using subprograms. Writing CNC mill programs using subprograms.

### SEMESTER 5 (100 HOURS) SPC / MFG PROCESSES

SPC- Quality tools used to solve problems determined by SPC data collection process, basic statistical parameters, interpret variables and attribute control charts, Interpret process capability, measurements of central tendency and variability, descriptive Analysis of Data, Control Charts for Variables Data and attributes. Job Planning and Control Mfg systems, job flow and decision making, specialty tooling and materials. Metallurgy and Composites. The basics of steel manufacturing, the elements used to create steel and steel alloys, the main types of ferrous materials and their properties, and the common tests used to measure metal properties

### SEMESTER 6 (100 HOURS) ADVANCED MANUFACTURING PRACTICES AND PROCEDURES

Additive Mfg, Specialty Steels, Advanced manufacturing technologies, processes, performance objectives in modern manufacturing, increased output and quality by integrating the right tools. Jig and Fixture building, CNC, PLC, automation, and software. Calculations of critical performance objectives. The 5S tool used for organizing and maintaining the workplace: Sort, Straighten, Shine, Standardize, and Sustain. properties, elements, and types of ferrous materials commonly employed in metal manufacturing.





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# BREMEN CASTINGS SEES A MILLION SAFE MAN-HOURS

BY JIM MEENAN, SOUTH BEND TRIBUNE

It's one thing to say safety is a top priority. It's another thing to create a culture where workers believe it.

That's what Bremen Castings set out to do in 2010, and on March 1 the effort paid off with the company reaching the goal of a million man-hours worked without a lost-time accident.

A lost-time accident is defined as an incident that resulted in a fatality, permanent disability or the loss of at least a shift or a day of work.

"This could not have been done without every single employee working on it and truly making safety first," said Carol Senour, director of human resources at the foundry and machine shop that employs 250 people in Bremen.

It took time, Senour said, noting the company touted safety as its top priority for more than seven years.



Bremen Castings melts down scrap metal, which it uses to make new parts for companies such as John Deere and AM General. About 92 percent of the material in its products is recycled.

What really changed the culture at the company started with regular discussions about safety at all types of meetings from production to monthly metrics meetings to weekly toolbox talks.

"We started e-mailing accident and near-miss reports to all management people," Senour said. "So we could start getting them to focus on the root cause and to help us correct the behavior and (start) changing the culture."

Toolbox talks consisted of talking about incidents such as slips, trips and falls, she said, as well as ladder safety.

"We would type something up, and every supervisor on every shift in every department would start their week out with what we called the weekly toolbox talks," Senour said.

The accident and near-miss reports helped make people aware so they did not repeat the same incidents, Senour said.

It's apparently worked.

Currently the company is just a few months away from going two years without a lost-time accident.

President JB Brown said the company stressed accountability by requiring "near-miss" reports, including for just noticing something amiss.

"For example, if a cable is in the way or there is a slippery step,

## ARE YOU A DREAMER, OR A DOER?

The MTConnect Challenge has something for both. The ultimate goal of the challenge is to engage and stimulate development of a broader base of advanced manufacturing intelligence applications that utilize the MTConnect standard.

The challenge offers a total of \$250,000 in cash prizes.

You could win \$100,000!

The MTConnect Challenge seeks ideas and applications that enable a more efficient and competitive domestic manufacturing infrastructure for the defense industry. Additionally, these ideas and applications should create valuable low-cost tools that can easily be adopted by discrete part manufacturers to enhance their capabilities and support supply management.

### CHALLENGE 1

**Dreamers - Submit Your Ideas**

Your ideas are what the first competition is looking for - the best concepts for manufacturing intelligence applications using MTConnect.

Think big!

Challenge I is seeking ambitious yet achievable ideas that capture the public's imagination and harness innovation and breakthroughs for the Department of Defense and U.S. industrial manufacturing supply chain.

This competition starts on April 12, 2013 and runs through May 31, 2013.

### CHALLENGE 2

**Doers - Create an App (application)**

If you're the type to roll up your sleeves, the second competition is looking for development of software applications that address the objectives of this challenge.

This competition begins on July 1, 2013 and runs until January 31, 2014.

MTConnect Challenge needs YOU: Diverse variety of entrants - students and professionals, scientists, laypersons, and organizations of all kinds, including manufacturers - are encouraged to participate.

### WHAT IS MTCONNECT?

MTConnect is an open-source, royalty-free communications standard intended to foster greater communication and connectivity between manufacturing equipment and devices.

FOR MORE INFORMATION, VISIT [HTTP://MTCONNECT.CHALLENGE.GOV](http://MTCONNECT.CHALLENGE.GOV)



the employee is responsible for moving it and filing a report to inform upper management of the issue," Brown said in a release discussing the safety achievement.

Bremen Castings is about to celebrate its 74th anniversary. Operating in the machining and foundry industry, where lost-time accidents are a definite possibility, makes the accomplishment even more impressive.

Giving a consistent, almost-constant message about safety was the key, Senour said.

"Just lots of training and talking about it until (the employees) believed it," she said.



# Second Annual National Manufacturing Day Slated for Oct. 4, 2013



## Factory Tours Urged to Raise Awareness of Skilled Career Options

After a successful initial celebration last year, the next Manufacturing Day has been scheduled for Fri., Oct. 4, 2013. Manufacturers, educational institutions and others are encouraged to host events that will highlight the importance of manufacturing to the nation's economy and draw attention to the many rewarding high-skill jobs in manufacturing fields.

The effort is co-produced by the Fabricators & Manufacturers Association, International (FMA), the National Association of Manufacturers (NAM), The Manufacturing Institute and the National Institute of Standards and Technology's (NIST) Hollings Manufacturing Extension Partnership (MEP). Industrial Strength Marketing, a Nashville area marketing agency specializing in marketing services for the manufacturing sector, has joined the effort as a guest producer for the 2013 event.

In its first year, more than 240 events were held in manufacturing facilities in 37 states and more than 7,000 people participated. This year's celebration will feature open houses, public tours, career workshops and other activities to increase public awareness of modern manufacturing. Events also will introduce manufacturers to business improvement resources and services delivered through the MEP's network of hundreds of affiliated centers across the country.

"Manufacturing Day is a great oppor-

tunity to shift Americans' perception that it is not our grandfather's manufacturing anymore and to showcase the tremendous career opportunities manufacturing has to offer," said NAM President and CEO Jay Timmons. "This day is an engaging way to attract young people and get them excited about pursuing a career in a technology-driven, innovative environment that will also provide a good-paying job. We encourage all manufacturers and manufacturing associations to get involved and share what we already know—manufacturing makes us strong."

"Manufacturing Day is a great opportunity to celebrate work and innovation of the 12 million men and women who make the United States the world's largest manufacturing economy," said Ed Youdell, president and CEO of the Fabricators & Manufacturers Association.

"Manufacturing Day provides a focused point in time each year when all manufacturers in America can collaborate to bring attention to this crucial sector of the economy and celebrate their accomplishments," said Jennifer McNelly, president of The Manufacturing Institute.

"This celebration of manufacturing is a chance for all of the great manufacturers who 'Make it in America' to show their value to their communities," said Roger Kilmer, director, Manufacturing Extension Partnership (MEP).

To learn more about Manufacturing

Day, log on to [www.mfgday.com](http://www.mfgday.com), where those wishing to host events will find resources to help them prepare. Visitors to the site also will find an interactive map showing where Manufacturing Day events are planned.

Associations and organizations that support the manufacturing industry are invited to join the program as sponsors or endorsers by calling 888-394-4362 or emailing [info@mfgday.com](mailto:info@mfgday.com).

For more information contact:

### PATRICIA LEE

Director of Marketing  
Fabricators &  
Manufacturers Association Intl.  
(815) 227-8286  
[patl@fmanet.org](mailto:patl@fmanet.org)

### JENNIFER HUERGO

Director of Media Relations  
National Institute of  
Standards & Technology  
(301) 975-6343  
[jennifer.huergo@nist.gov](mailto:jennifer.huergo@nist.gov)

### JEFF OSTERMAYER

Senior Media Strategist  
National Association of Manufacturers  
(202) 637-3090  
[jostermayer@nam.org](mailto:jostermayer@nam.org)





MANUFACTURING DAY HAS BEEN DESIGNED TO EXPAND KNOWLEDGE ABOUT AND IMPROVE GENERAL PUBLIC PERCEPTION OF MANUFACTURING CAREERS AND MANUFACTURING'S VALUE TO THE NORTH AMERICAN ECONOMY. IN ADDITION, MANUFACTURERS WILL LEARN ABOUT BUSINESS IMPROVEMENT RESOURCES AND SERVICES DELIVERED THROUGH MANUFACTURING EXTENSION PARTNERSHIPS.

#### HOST AN OPEN HOUSE

As a manufacturer it's your opportunity to:

- Tell your company's story
- Dispel outdated myths about manufacturing
- Inspire a new generation of manufacturers
- Connect with potential customers in your community
- Learn about manufacturing extension partnerships that can improve your efficiencies and work force skills and boost your profits
- Visit other manufacturers to initiate business relationships and learn what is being made in your community

The core element to Manufacturing Day is the schedule of manufacturer's open houses. Manufacturing Day producers will promote the open house schedule through general and trade media campaigns which will alert thousands of people to visit manufacturers and see that American manufacturing is a vibrant career path and employers need skilled workers. The event will also make it possible for manufacturers to visit other participating companies in their region that may be potential business partners – either as customers or suppliers.

#### ATTEND AN OPEN HOUSE

If you are employed in a non-manufacturing service industry such as accounting, business and MRO supplies, business services, education, media or if you are a student or a parent,\*

Visit manufacturers on Oct. 4, 2013 and learn:

- What modern manufacturing facilities are really like these days
- What the companies located in your community make and who they sell to

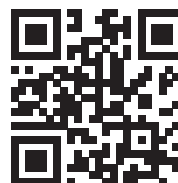
- What kinds of jobs are available in manufacturing
- What skills and education are needed to qualify for today's manufacturing jobs

\*Students under age 18 must be accompanied by an adult or participate with a school group.

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## CAMSHAFT MEASURING MACHINE FEATURES INCREASED PART CHANGEOVER FLEXIBILITY



An upgraded gage for robot-fed 100% automotive camshaft inspection that has a new programmable headstock with 100 mm travel to handle most camshafts is being introduced by ADCOLE Corporation of Marlborough, MA.

The ADCOLE 1310 High-Speed Camshaft Gage features a new automatic program-able headstock along with an existing programmable tailstock that increases machine flexibility and provides rapid changeover for most camshaft families. Capable of handling changeovers automatically, this gage measures 10 or more parameters including radius, profile, taper, crown, timing angle, diameter,

velocity, acceleration, run-out, roundness and concentricity.

Providing 0.1 micron resolution per data point, or 3,600 data points per revolution, the ADCOLE 1310 High-Speed Camshaft Gage can process up to 200 parts-per-hour. Standard features include dual computers, Windows XP® embedded software, GE Fanuc® motion controllers, and a graphic display that lets operators monitor throughput with green, yellow and red plots depicting in-tolerance, reaching control limits, and out of tolerance status.



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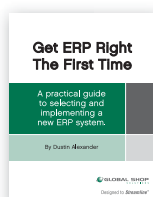
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## REX-CUT ABRASIVES INTRODUCES NEW 32-PAGE CATALOG

A new, redesigned 2013-2014 product catalog that features non-woven cotton fiber abrasive grinding wheels, cut-off wheels, mounted points, and other types of grinding, blending, deburring, and finishing products is being offered by Rex-Cut Abrasives of Fall River, Massachusetts.



The Rex-Cut® 2013-2014 Time Saving Solutions Catalog features a wide range of non-woven cotton fiber abrasives including mounted points, Type 1 and Type 27 grinding wheels, quick change discs, and hand-held finishing sticks. Suitable for grinding, blending, deburring, and finishing applications, other products include unitized mounted points, flap discs, cut-off wheels, carbide burs, stainless steel tube finishing kits, and other specialty kits.

Designed to let users select the best product for their application, the 32-page Rex-Cut® 2013-2014 Time Saving Solutions Catalog includes usage tips, easy to read charts with sizes, shapes and specifications, along with QR codes to video demonstrations. New products featured in this catalog include Type 27 Max Flex Cotton-Fiber Wheels and Rubber Mounted Points.

The Rex-Cut® 2013-2014 Time Saving Solutions Catalog is available free from Rex-Cut Abrasives and can be downloaded from [www.rexcut.com](http://www.rexcut.com).



# PRECISION PRODUCTS MANUFACTURER USES FARO GAGE TO CREATE INSPECTION EFFICIENCIES

A family-owned business from the start, the story of G5 Outdoors began in 1966. Louis Grace Sr. founded Grace Engineering in Memphis, Michigan with the principle of “Precision Products through Innovative Manufacturing.” Over the years, the company has grown and become known for developing innovative manufacturing practices and quality products.

Mr. Grace Sr. emphasized the importance of quality assurance in manufacturing with the mantra of, “You are only as good as you can measure.” The level of manufacturing expertise rises only to the level of the quality department’s ability to check a part. To this day, both G5 and Grace Engineering adhere to this philosophy by continuously honing their measuring skills to keep up with the latest techniques and equipment. Harnessing and nurturing innovation in everything they do as a company is the essence of their existence.

In 2000, Louis Grace Jr. filed for a patent using metal injection molding, or Monoflow Technology, to manufacture a



broadhead for the archery industry. A year later, G5 Outdoors ([www.g5outdoors.com](http://www.g5outdoors.com)) was born as the proverbial “better mousetrap” as an all-steel broadhead.

The company slogan of “Designed to Hunt” captures their spirit of design and their passion for bowhunting. G5 continues with the mission of building bows with the highest level of craftsmanship and quality in the industry at a good price, to use

game-changing technology that creates new standards for accuracy and innovations not seen before in the archery industry.

## PROBLEM

As you could imagine, the parts the G5 produces offer unique shapes and sizes and can be very prohibitive, cumbersome, and time consuming for standard inspection techniques. These parts vary in size from the quite small (.125” diameter x 3/8” long) to much larger, heavier, and more complex-shaped parts (up to 34” long and weighing up to approximately 15 pounds each). It is these larger parts that provided the need and impetus for the company to look for additional inspection options.

Prior to this, G5 used a variety of typical traditional measurement methods such as hand gauges, surface plates and height gauges, optical comparators, and other similar options. Each of these suffered from a combination of not fast enough, not capable, or too complicated to set up.

## SOLUTION

“We considered a bridge-type CMM to provide the additional inspection capabilities that older technologies could not satisfy,” said Jeff White, G5’s Quality Manager. “But as much as we needed to maintain quality, we were not overly anxious to put out a large capital outlay for a fixed CMM that was big enough for our needs.”

The solution to that restraint was to implement a portable CMM from FARO, the FARO Gage. The Gage has improved G5’s capabilities and met their needs in multiple ways. The device is very easy to use by both operators and inspectors and the software is easily interpreted and used for writing new measurement programs.

“We really like the fact that we can move the Gage out to the machining operation and check a part, a tool, a fixture, or anything that we need to without removing anything from the machine,” said Mr. White. “This is really a great asset in quickly and accurately verifying our processes and setups.”

G5 is still expanding their uses of the FARO Gage even beyond the shop floor. With its basic ease of use, the Gage has been readily accepted by everyone at both G5 and Grace Engineering and they look forward to discovering additional uses as

everyone gets even more comfortable with the technology.

The company uses FARO for their incoming inspection of supplier parts as well as during the continued machining of those parts. It is used for all inbound shipments of raw material, for in-process inspection, as well as future product development, problem solving, and process development of tooling and fixtures.



“We are able to measure, report, and quantify items on parts for our operators and our suppliers much more quickly and accurately

than we could with other inspection methods,” said Mr. White. “This results in better overall quality and throughput.”

## RETURN ON INVESTMENT

The incoming inspection of bow riser forgings, for example, took 1-2 hours per batch to inspect the primary concerns of forging flatness and straightness. Using the FARO Gage, these same inspections can be done in 15-30 minutes maximum. That is a tremendous time savings. The estimated time and money savings for G5, just on these incoming forging inspections, have been multiple hours and at least \$5,000 in just a couple of months.

“For G5, we can see that the information we are gaining using FARO will allow us to perfect new applications and acquire even more jobs,” said Mr. White. “The time savings and more accurate feedback we’ve gained since implementing FARO has greatly improved our processes and our capabilities.”





# THOMASNET LAUNCHES NORTH AMERICAN MANUFACTURING SCHOLARSHIP PROGRAM

COMPANY ENCOURAGES NEXT GENERATION TO JOIN THE FUTURE OF MANUFACTURING

In a move to attract the brainpower and creativity of the next generation, and draw them into manufacturing, ThomasNet® announces the launch of its North American Manufacturing Scholarship Program. Up to thirty graduating high school seniors with an interest in manufacturing careers will each receive a \$1,000 scholarship to pursue studies at a two-year or four-year college, or a vocational-technical school.

As far as ThomasNet is concerned, nothing less than the future is at stake. "For more than a century, we've supported American manufacturing by connecting buyers and suppliers," said Eileen Markowitz, president of ThomasNet. "We hope to have parents, educators and the manufacturing community join us in encouraging young students to transform their ingenuity and passion into a career in this exciting industry. With the launch of ThomasNet's first North American Manufacturing Scholarship Program, we will recognize those star performers who have already demonstrated achievement in their schools and communities, and who plan to bring their skills and talents to this important industry."

The timing of the program is no accident. According to ThomasNet.com's 2012 Industry Market Barometer® (IMB) survey, almost 50 percent of manufacturers are seeking to bring on new staff, including engineers, line workers, and skilled trade work-

ers. Yet, despite high unemployment rates in the U.S. and Canada, manufacturers often have more jobs than talented people to fill them. That spells new professional opportunities for high school graduates who want to innovate, make products that are used all over the world, and leverage their science, technology, engineering and mathematics (STEM) training.

ThomasNet is inviting the manufacturing community to show support for the new Scholarship Program by signing up for any one of ThomasNet.com's free newsletters such as the new IMT Career Journal. For each new subscription, ThomasNet will make a contribution (up to \$30,000) to the Scholarship Program.

To be eligible for the ThomasNet North American Manufacturing Scholarships, applicants must be graduating U.S. high school seniors or Canadian secondary students who plan to major in engineering, supply chain management/business operations, or learn a skilled trade. Interested students and educators can find out more about the scholarship by visiting ThomasNet.com and applying directly at [www.thomasnetscholarship.com](http://www.thomasnetscholarship.com). The application deadline is July 1, 2013.



## NEWLY ACCREDITED: DMG MORI SEIKI UNIVERSITY

Located just outside Chicago, DMG / Mori Seiki USA is not only the world's largest supplier of lathes, machine tools, and turning centers, but its comprehensive training initiative, DMG / Mori Seiki University (DMGMSU), is the now latest addition to the network of NIMS-Accredited training programs. Through a balance of on-site, web-based, and classroom training formats, DMGMSU has established itself as a first class resource for transforming entry-level machinists into highly skilled experts that are widely desired by industry.

The drive to accredit was led by Chief Learning Officer Rod Jones, Manager of Educational Operations Doug Pierce, and Manager of Technical Instruction John Roufis, and culminated with an on-site evaluation that occurred at the DMGMSU facility in Hoffman Estates, Illinois on April 8-9, 2013. Over the two day visit, an all-star NIMS Evaluation Team scrutinized all aspects of the University. Assessing all educational and physical aspects of the University, Team Leader Joan Cook, Education Representative Don Ruesch, and Industry Representative Brad Wagner ultimately gave DMGMSU the highest ratings in all seven areas of evaluation:

- Program Purpose
- Facilities
- Equipment, Tooling, and Measuring Devices
- Program Features
- Administration / Management
- Instructional Staff
- Trainee Credentialing

Following the evaluation, Team Leader Joan Cook commented that "the Team found the entire staff, faculty and administration fully committed to expanding NIMS credentialing within their company and affiliated distributors." She went on to note that the "facility is state of the art, with exceptional opportunities for the participants to learn - and to ultimately earn NIMS credentials."

This accreditation focuses on CNC machining, as well as machine maintenance, which means that all trainers have successfully credentialled themselves in a variety of NIMS skills certifications, including:

- CNC Milling Operations, Level I
- CNC Turning Operations, Level I
- Machine Maintenance, Service & Repair, Level II
- Measurement, Materials & Safety I

Several trainers also earned the NIMS On-The-Job Trainer credential in 2009, which provides evidence that the DMGMSU instructional staff possess the core competencies required to optimize the education experience.

Congratulations to the team at DMG / Mori Seiki University and many thanks to the NIMS Evaluation Team for contributing their time and expertise.

Visit DMG / Mori Seiki University online to learn more about the exceptional educational programs available.



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**WHEN YOU MAKE WHAT MATTERS**





# NTMA HELPS LAUNCH NATIONWIDE EFFORT TO CONNECT MANUFACTURERS WITH SKILLED NATIONAL GUARD MEMBERS LOOKING FOR EMPLOYMENT

NTMA was one of the first trade associations to endorse the Center for America's American Jobs for American Heroes (AJAH), a national campaign designed to connect unemployed National Guard members and military veterans with manufacturers and other employers. NTMA President Dave Tilstone is a member of AJAH's Advisory Council that provides guidance to the Center for America's leaders in the implementation of this important campaign.

The AJAH effort is a great way for NTMA members to advertise their job openings to highly motivated potential employees. Only one in four applicants are accepted into the National Guard and members train continuously in programs provided in 107 categories, from leadership, administration and logistics to electronics, operations and maintenance. They demonstrate a readiness for learning, responsibility for good teamwork and reliability, and they understand how to perform in a disciplined organization.

## HERE'S HOW IT WORKS:

AJAH is a Free Resource to Fill Your Jobs with Unemployed National Guard Members

NTMA Members looking for qualified employees have free and direct access to thousands of unemployed National Guard members and military veterans through the ongoing nonprofit American Jobs for America's Heroes campaign. With more than 60,000 unemployed National Guard members nationally, this is a huge resource for employers looking for skilled, experienced and reliable

employees.

It takes only about ten minutes to register for posting jobs at no cost at <http://www.centerforamerica.org/register.html>. You can also find a link to the portal on our One Voice website at [www.metalworkingadvocate.org](http://www.metalworkingadvocate.org). All services are free to employers and applicants.

Your job postings are plugged directly into the National Guard Employment Network to fuel the work of state National Guard employment teams who match candidates with your jobs. These counselors in every state, with support from Corporate America Supports You (CASY) and Military Spouse Corporate Career Network (MSCCN), will help you understand how military experience and training relate to your job requirements.

You can read about our participation in the campaign on AJAH's blog at or <http://www.americanjobsforamericasheroes.blogspot.com/2013/04/spotlight-on-supporters-pma-and-ntma.html> and in Plant Engineering at <http://www.plantengineering.com/single-article/national-guard-job-bank-draws-support-from-ntma-pma/6490232498.html>

We encourage all NTMA members to post their job openings with AJAH. Get started today by registering at <http://www.centerforamerica.org/register.html>

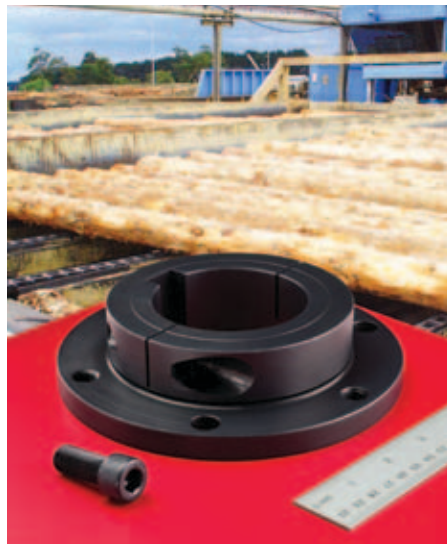


**Brigadier General Marianne Watson, Director, Manpower and Personnel, National Guard Bureau, briefed AJAH Campaign Advisory Council Members during its February 20, 2013 meeting on challenges facing unemployed National Guard members**

## FLANGE COLLAR FOR DEMANDING APPLICATIONS

A new, heavy-duty mounting flange collar that features robust construction for extremely demanding applications such as large bulk material handling, mining, processing, and waste reduction equipment is being introduced by Stafford Manufacturing Corp. of Wilmington, Massachusetts.

The Stafford Heavy-Duty Flange Collar features a robust design with wider construction and oversize clamping screws to provide up to three times the axial load capacity of a standard flange collar. Manufactured to customer requirements, this mounting collar incorporates the Accu-Clamp™ non-marring clamping feature machined into a perfectly square



mounting flange.

Providing flatness and perpendicularity to < 0.001 TIR, the Stafford Heavy-Duty Flange Collar is available in one- and two-piece styles machined from aluminum, steel, stainless steel, and other alloy steels. Bores sizes can range from 1/2" to 6" I.D. and flanges up to 14" O.D. with drilled and tapped holes in customer specified patterns.

Stafford Heavy-Duty Flange Collars are priced according to configuration and quantity. Price quotations are available upon request.



# 5 MISTAKES THAT QUASH CORPORATE INNOVATION

'YOU CAN'T READ THE LABEL WHILE INSIDE THE JAR,' SAY FORTUNE 100 CONSULTANTS

The biggest breakthroughs in the history of business – and the history of the world – are never the result of conventional thinking, says Maria Ferrante-Schepis, a veteran in the insurance and financial services industry who now consults Fortune 100 companies such as GE with innovation agent Maddock Douglas, Inc.

"To echo Harvard Business School professor Theodore Levitt back in 1960, 'In every case, the reason growth (in business) is threatened, slowed or stopped is not because the market is saturated. It is because there has been a failure of management.' Many of the world's biggest companies are simply riding on inertia," says Ferrante-Schepis, author of "Flirting with the Uninterested," ([www.flirting-with-the-uninterested.com](http://www.flirting-with-the-uninterested.com) <<http://www.flirting-with-the-uninterested.com>

[www.flirting-with-the-uninterested.com](http://www.flirting-with-the-uninterested.com)>), coauthored by G. Michael Maddock, which explores innovation opportunity through the lens of the insurance industry.

"There's a great saying in the South: 'You can't read the label when you are sitting inside the jar,' " says Maddock, CEO of Maddock Douglas. "It's hard to see a need and invent a way to fill that need when you've been inside one business or industry for a long time."

Recognizing those needs requires stepping outside of the jar and viewing things from the outside, adds Ferrante-Schepis.

"You can't innovate from inside the jar, and if you aren't innovating, you're just waiting for the expiration date on your business," she says.

## FERRANTE-SCHEPIS AND MADDOCK BUST FIVE MYTHS RELATING TO CORPORATE INNOVATION:

- The preference of four out of five dentists doesn't necessarily matter: Many years ago, when the Maddock Douglas firm consulted with P&G to develop new oral health care products, Crest was recommended by most dentists. However, it turns out the market had shifted; consumers became more interested in bright smiles than healthy gums. Many industries make the mistake of getting their insights from their own experts rather than asking the consumer.

- Giving all your love to those who already love you: In the interest of preserving customer morale, too many companies focus on those who already love their service. But that's not what companies need to work on; they need to focus on what's not working in order to improve. The haters very often offer well-targeted insights that can tremendously improve products, customer service, and/or operations.

- "We tried that idea. It didn't work." What idea, exactly? People who are in the jar interpret new ideas based on how they last saw them. You may think you've tried or tested an idea, but if you applied it in a conventional way, the way it's always been used, you haven't really tried it. Consider the term "auction" -- in-the-jar thinkers envision Sotheby's and not the more practical and innovative eBay.

- Trying to impress with insider jargon: Communication is a huge part of innovation. Policies in the health-insurance industry, for example, include language that may make sense to insiders, but say nothing to the average middle-class customer, which is prohibitive. Be very careful about the language you use. In this case, "voice of the customer" should be taken literally. Customers recognize, respond to and build from their own words more than from yours.

- Staying at your desk and in the office: Doubling down on what already has not worked for you is not innovative. Get outside your office and act like an anthropologist. Spend time with your customers and bring an expert interpreter and a couple members of your team. Compare notes; you'll be shocked at how differently you all see the situation.

## NTMA PRESS RELEASE: LOCAL MANUFACTURERS HELPING SUPPORT STEM EDUCATION IN INDIANA

Local manufacturers have been working to advance Indiana's science, technology, engineering and mathematics (STEM) education through creative efforts that culminate in this year's National Robotics League (NRL) Championships. The NRL Championships, a robot combat competition created by the National Tooling and Machining Association (NTMA) to help introduce a new generation to the advanced skills and technology of today's manufacturing, will be held on the Indiana University – Purdue University Indianapolis (IUPUI) campus on May 17-19, 2013.

The Indiana chapter of the NTMA (INTMA) has long pushed to elevate the critical role that STEM education plays in U.S. competitiveness and future economic prosperity. Through efforts like the NRL, in which student-designed robot gladiators collide in a ring over the course of a multi-day tournament, INTMA member companies are helping students to see first-hand the exciting, entrepreneurial possibilities of STEM skills put to work.

"The future of our industry, and frankly the economy as a whole, depends on our ability to raise a generation of technically savvy problem solvers who are eager to continue to push the innovation and technology envelope," said Steve Wolsiffer, INTMA Chapter President. "We've seen the NRL bring out exactly those qualities in the students who participate, and so we've put the resources of the INTMA behind this program to help ensure its continued growth."

The NRL Championships are also supported by local and national sponsors including Ivy Tech, Indiana's largest public post-secondary educational institution; DEPCO, LLC; Boston Centerless; PartnerShip; and the National Tooling and Machining Foundation.

"We are so grateful to the INTMA and the many sponsors for their support of the National Robotics League," said Maureen Carruthers, Program Director at the National Robotics League. "Indianapolis is a great place to hold our National Competition, as people here understand and appreciate the vital importance of the manufacturing sector for our community, our companies, and our economy as a whole. INTMA members have been our eyes, ears, and hands in Indianapolis and are committed to making this program a success. I can't imagine furthering this initiative without them and without the consistent support of our local and national sponsors."



# DID YOU KNOW?

## GUIDE TO MEMBER SERVICES

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## PIPE BEVELING TOOLS PULL THICK CHIP FOR WELD INTEGRITY

A full line of pipe beveling welding end prep tools that combine rigidity with a wedge-lock cutter head and blades that produce a thick chip without cutting oils is available from ESCO Tool of Holliston, Massachusetts.

Esco MILLHOG® Pipe Beveling Tools pull a thick chip without cutting oils to promote weld integrity and faster fit-up by providing a precise end prep that is superior to hand grinding. Producing any angle of prep from 37-1/2° to 10° and compound bevels, these tools incorporate the EscoLock™ wedge-lock cutter head and proprietary blade featuring a radical chip breaker which gets under the material and directs heat away from the surface.



Capable of producing end preps with  $\pm 0.001$ " precision, Esco MILLHOG® Pipe Beveling Tools increase productivity by producing better matched pipe ends, claims the firm. A broad range of tools, cutter blades and accessories are available for cutting and machining pipe, tube, pipelines, boiler tube panels and more ranging from 0.5" I.D. up to 36" O.D.

Esco MILLHOG® Pipe Beveling Tools are priced according to type and are available for sale or rent with 24-hour shipment, or less, available.







NATIONAL TOOLING & MACHINING ASSOCIATION  
1357 Rockside Rd.  
Cleveland, OH 44134

## CALENDAR OF EVENTS

### January

#### OFF-SHORE TECHNOLOGY CONFERENCE

Reliant Park

May 6-9, 2013  
Houston, TX

#### NTMA PURCHASING FAIR

May 16-17, 2013  
Indianapolis, IN

#### NATIONAL ROBOTICS LEAGUE COMPETITION

IUPUI Campus  
May 17-19, 2013  
Indianapolis, IN

### February

#### CHAPTER LEADERSHIP SUMMIT

May 17-18, 2013  
Indianapolis, IN

### May

#### AMERIMOLD 2013

Donald E. Stephens Center  
June 12-13, 2013  
Rosemont, IL

#### EMO HANOVER 2013

September 16-21, 2013  
Hanover, Germany

### March

#### FALL CONFERENCE - BOSTON

Omni Hotel  
October 15-20, 2013  
Boston, MA

#### IMX 2013

November 18-20, 2013  
Las Vegas, NV

