

**NTMA-U STUDENTS EXCEL IN THE
WORKPLACE**

The importance of workforce skills in our nation is growing. Apprentices are expected to keep up with the increasing demands of their course load and at the same time improve their level of performance on their job. Most apprentices desire to be the best apprentice that they can be. But we as manufacturers are often asked “what really makes an outstanding employee?” — p. 8

**PITTSBURGH CHAPTER MEMBER
COMPANIES RECOGNIZED WITH
MANUFACTURER OF THE YEAR AWARDS**

Two member companies of the NTMA Pittsburgh Chapter, Cygnus Manufacturing Co. and Ace Wire Spring & Form Co, Inc., were recognized with the Manufacturer of the Year award presented by Pittsburgh Business Times in December. — p. 11

**NTMA TECHNOLOGY EXCELLENCE
AWARD**

The NTMA Technology Excellence Award is designed to recognize and share excellence shown in these fields, strengthening the precision contract manufacturing industry. We are currently accepting nominations for the Technology Excellence Award. — p. 20

**SIX MANUFACTURERS THAT DO
APPRENTICESHIPS RIGHT**

If the word “apprenticeship” has a nostalgic ring to it, maybe it’s because high school vocational programs aren’t what they used to be, and in-house training programs are a casualty of consolidation and cost-cutting. But at these manufacturers, apprenticeships are an important part of the culture. — p. 26

**EMPLOYEE MANAGEMENT
& BENEFITS WORKSHOP****FINANCIAL MANAGERS
ROUNDTABLE****PLANT MANAGERS
ROUNDTABLE****SALES & MARKETING
WORKSHOP****WORKFORCE DEVELOPMENT
ROUNDTABLE****NTMA****NTMA****NTMA****NTMA****NTMA****New 2016 Technical Seminars**

NTMA Technology Tour 2016

Japan

APRIL 17-24, 2016



National Associate Members BIG KAISER Precision Tooling, Mazak, Memex, and Blaser Swisslube will host a 6-day tour for NTMA members to manufacturing facilities in Japan.

BIG KAISER

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Mazak

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MEMEX

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Japan Tour Schedule

Date	Day	Activity	Accommodation
17-April	Sunday	US Departures / Monday arrivals to NGO (Nagoya Int'l Airport)	n/a
18-April	Monday	Day 1 - Arrivals to Nagoya / Welcome Dinner (TBD based on arrivals)	Nagoya - TBD
19-April	Tuesday	Day 2 - Visit MAZAK facilities Minokamo and Minokamo 2 Tour MAZAK Optonics	Nagoya - TBD
20-April	Wednesday	Day 3 - MEMEX demonstration "Data-Driven Manufacturing" Mazak Headquarters Tour Visit Mazak Museum of Art in Nagoya Depart PM by coach to Kyoto (2 hrs)	Grand Prince Hotel, Kyoto
21-April	Thursday	Day 4 - Kinkaku-ji (Golden Pavilion at Deer Park) Shopping at Handicraft Center Visit Nijo Castle (home of the shogun) Continue by coach to Awaji Island	XIV, Awaji
22-April	Friday	Day 5 - Tour BIG Daishowa's/ BIG KAISER's manufacturing plants Blaser "Liquid Tool" presentation & machining demonstrations	XIV, Awaji
23-April	Saturday	Day 6 - Depart Awaji by coach to Osaka - Free time in Osaka	Swissotel
24-April	Sunday	Day 7 - Departures to U.S. from Kansai Int'l Airport (KIX) or Osaka Hami Airport. Same day arrivals to U.S. destinations	n/a



NTMA Tech Tour 2016 is a special opportunity for NTMA members to learn, network and tour manufacturing facilities in Japan. While challenges in manufacturing are universal, methods applied in other parts of the world can bring unique insight and ideas to improve your own operations. Break away from your routine for one week and get inspired during NTMA Tech Tour 2016 - Japan!

REGISTRATION AND PRICING INFO:

Administration Fee: \$495

** Payment deadline: March 15, 2016

For Registration Contact:

Brittany Belko

bbelko@ntma.org

Maximun capacity is 25

Facility Tours: Your hosting National Associate Members include:

Mazak Corporation, MEMEX, BIG Daishowa (BIG KAISER), and Blaser Swisslube

The Hosting Companies will provide:

- Complimentary ground transportation in Japan
- Hotel accommodations
- Sightseeing activities
- Most meals

Flight Information:

- Participants should book their own flight departing the U.S. on Sunday, April 17, arriving Chūbu Centrair International Airport in Nagoya (NGO) on Monday, April 18.
- Select a return flight departing Sunday, April 24, from Kansai International Airport in Osaka (KIX) or Osaka Itami Airport (ITM)

TABLE OF CONTENTS

PRESIDENT'S UPDATE	4
CHAIRMAN'S CORNER	7
COVER STORY	
NEW 2016 NTMA TECHNICAL SEMINARS	15-18
2016 CALENDAR OF EVENTS	15
AWARDS	
PITTSBURGH CHAPTER MEMBER COMPANIES RECOGNIZED WITH MANUFACTURER OF THE YEAR AWARDS	11
MOUNTAINSIDE MEDICAL RECEIVES NTMA'S TOP 6S AWARD	20
NTMA TECHNOLOGY EXCELLENCE AWARD	20
COMPANY NEWS	
GROB OPEN HOUSE	11
BE A BUFFALO (CULTURESHOC)	25
MITTLER BROS. TOOLS HELP TO CREATE A LASTING WEDDING MEMORY	31
ECONOMY	
TIPS FOR EVALUATING AND RANKING ENERGY SUPPLY PRICES AND SUPPLIERS	9
THE IMPORTANCE OF RETAINING & REWARDING EMPLOYEES	23
UNDERSTANDING THE UPS AND FEDEX SMALL PACKAGE RATE INCREASES	28
FIVE THINGS CEOs SHOULD KNOW ABOUT VETERAN HIRING	30
MANUFACTURING A BETTER BOTTOM LINE WITH THE R&D TAX CREDIT	31
EDUCATION	
NTMA-U STUDENTS EXCEL IN THE WORKPLACE	8
WHAT WE CAN LEARN FROM BASEBALL	10
SCHUNK PROUDLY TAKES PART IN THE FIRST NATIONAL AND STATE APPRENTICESHIP WEEK	22
NIMS, GENE HAAS FOUNDATION AND EDGE FACTOR LAUNCH INSPIRE GRANT PROGRAM	23
NTMF: "IT IS NOT WHAT YOU TAKE BUT WHAT YOU LEAVE BEHIND THAT DEFINES GREATNESS."	27
EMERGING LEADERS	
SIX MANUFACTURERS THAT DO APPRENTICESHIPS RIGHT	26
IN MEMORIAM	
S. GEORGE BELEZOS & JOHN EUGENE WEYRETER	28
NATIONAL EVENTS	
NTMA TECHNOLOGY TOUR 2016 - JAPAN	2
NTMA TECH TEAM WEBINAR	13
2016 MFG MEETING	19
CALLING ALL POTENTIAL EXECUTIVE COMMITTEE CANDIDATES!	22
MARCH EMPLOYEE MANAGEMENT & BENEFITS WORKSHOP - INDIANAPOLIS	26
FEBRUARY SALES & MARKETING WORKSHOP - DALLAS	27
FEBRUARY FINANCIAL MANAGERS ROUNDTABLE - ATLANTA	28
2016 CHAPTER LEADERSHIP SUMMIT	32
NTMA CHAPTER NEWS	
NTMA WELCOMES NEW MEMBERS	3
NTMA WELCOMES NEW NATIONAL ASSOCIATE MEMBER CULTURESHOC	3
ST. LOUIS CHAPTER DONATES TO ST. PATRICK CENTER	28
SAFETY	
PROTECTING EYES AND LUNGS	21
TECHNOLOGY	
WINNING AT TITANIUM MACHINING	13
GF MACHINING SOLUTIONS INTRODUCES NEW HIGH-PERFORMANCE CUT E SERIES OF WIRE EDM	27



WELCOMES NEW MEMBERS

ACCURATE MARKING PRODUCTS

Pittsburgh Chapter
Mr. Ryan Mulraney
225 Prominence Drive
New Kensington, PA 15668

CENTRAL TOOLS, INC.

General member
Mr. Alec Dawson
456 Wellington Avenue
Cranston, RI 2910

CENTRAL VALLEY MACHINE INC

North Utah Chapter
Mr. Bret Wursten
1886 N 100 E
Logan, UT 84341

CENTRANZ, INC.

Kansas City Chapter
Mr. Joel Gorden
27208 E US Hwy 24
Buckner, MO 64016

DPMS INC., DANCO MACHINE

San Francisco Bay Area Chapter
Mr. Timothy Rohr
950 George Street
Santa Clara, CA 95054

GEORGIA MACHINE

General member
Mr. Mark Brown
145 Gee Rd Ne
Calhoun, GA 30701

J&G MACHINE

Connecticut Chapter
Mr. Bob Goulet
100 Whiting St
Winsted, CT 06098

LOS ALAMOS NATIONAL LABORATORY

New Mexico Chapter
Mr. Stephan Hidalgo
P.O. Box 1663
Los Alamos, NM 87545

PETERSEN, INC.

Northern Utah Chapter
Mr. Brett Wagner
1527 N 2000 West
Ogden, UT 84404

PRIER PRODUCTS, INC.

Kansas City Chapter
Mr. Brady Poskin
4515 E 139th St
Grandview, MO 64030

SAMTEC TOOL DIVISION

Northwestern Pennsylvania
Chapter
Mr. Chris Schreck
2215 Powell Avenue Suit 200
Erie, PA 16506

NTMA WELCOMES NEW NATIONAL ASSOCIATE MEMBER

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PRESIDENT'S UPDATE

DAVE TILSTONE / NTMA PRESIDENT

HAPPY NEW YEAR!

After concluding a very successful 2015 for our membership, we turn our sights to the exciting year planned ahead. As we begin 2016, the financial health of NTMA is better than ever. With a strong balance sheet and cash on hand, we plan to invest in our key programs, including regional Technical Seminars at lower registration fees, Emerging Leaders, NTMA-U, the NRL, and our Chapters and membership.

The year kicks off with our first regional **Technology Seminar**, a Plant Managers Roundtable hosted by Okuma in Charlotte. This roundtable includes a plant tour of Siemens and a cryogenic machining demo done at Okuma in conjunction with one of our newest National Associates, 5ME. Anyone who is in the aerospace industry and machines 6Al4V titanium will be blown away with the impact of cryogenic machining technology.

Our regional technology workshops and roundtables are being held in different cities this year and, as I mentioned earlier, at lower registration fees; see the complete schedule and new pricing for our 2016 Employee Management & Benefits Workshops, Sales & Marketing

Workshops, Financial Managers Roundtables, Plant Managers Roundtables, and Workforce Development Roundtable inside this issue. Please take advantage of these "local" events to help educate and train your workforce on best practices, new technologies and working through their daily challenges. The goal of these events is to arm attendees with ideas and solutions that can be used in everyday business opportunities and challenges.

The **Emerging Leaders** are the future of our association and our industry. To continue their tremendous momentum from 2015 and encourage their participation in the upcoming MFG Meeting, being held March 2-5 in Desert Palm, Emerging Leaders are being offered a \$300 discount off the early bird registration rate. MFG will address the interests of the seasoned business owner and the emerging leaders of their organizations. Registration for MFG has been open since early December and is available on themfgmeeting.com.

Coupled with MFG this year will be the **Chapter Leadership Summit (CLS)**. Following last year's very successful CLS in Cleveland, many new ideas have been added to enhance the

program, including Running an Effective Board, NTMA-U Pilot Program Launch and a team building scavenger hunt that will test your Rock & Roll knowledge. All Chapter Executives in attendance will also earn CAE credits, getting you that much closer to obtaining your Certified Association Executive certification. This year, CLS will be held at the Hard Rock Hotel in Palm Springs from February 28-March 1. Be sure to support the attendance of your Chapter Executive and leaders so they can learn how to grow your chapter and implement best practices.

NTMA-U will be offering updated math and GDT textbooks to support the recently updated modules in 2015. The modules were a resounding success in 2015, with over 1,400 modules utilized by our members and schools. This very popular program helps recruit and retain members during this time of continued lack of availability of skilled workers in the industry. Ken McCreight piloted a program in the Western Region and with our Texas Chapters to help increase awareness and add value to membership. Ken does an excellent job explaining the program and offers any member an overview of NTMA-U, in

person or through a webinar. An initiative is also underway to further integrate NIMS credentials with the NTMA-U curriculum. We are also offering students in the NRL the Safety Course free of charge. For more information about NTMA-U, please contact Ken at kmccreight@ntma.org.

The addition of Sarah Brooks and Bill Padnos to the **NRL Team** in 2015 has really set the program on fire. The NRL Competition at Baldwin-Wallace University in May had a record number of teams and student participants along with a story on CNN Money about the program that gained national attention. At the Fall Conference, a new NRL Industry Advisor Toolkit developed in partnership with LoSasso Integrated Marketing was released. LoSasso donated their time and expertise to this project as part of their 25th Anniversary Celebration. We really appreciate their support and excellent work, and invite everyone to view the toolkit at www.gonrl.org/toolkit.

In addition, we had a tremendous amount of interest in expanding the NRL program throughout the U.S., with new programs expected in 2016 in Berks County, Detroit (whose

CONTINUED ON — P5

THE RECORD

OPERATIONS & EDITORIAL

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Nikki Hunt, Writer and Publicist

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To advertise in *The Record*, or for information on publishing your corporate newsletter or sales literature, contact NTMA at (216) 264-2847 or

tbryson@ntma.org for advertising,

nhunt@ntma.org for editorial content.

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kick off included over 3000 student attendees), South Bend, St. Louis, Toledo and more. The NRL will also be launching a new website to provide more resources for teams and NTMA Chapters interested in starting a program as well as promoting manufacturing careers to students and parents. The NRL is also initiating a funding campaign through grants to support the growth. More exciting news will come throughout 2016 as the program continues to expand.

Consistent with our strategy to build a strong group of Federated Chapters, for the first time in many years we will have all regions of the U.S. supported by our **Membership and Chapter Services Executives**. Their role is to support all activities of the membership, from recruitment to retention,

while providing support for all members and Chapters within their regions. Although we are very delighted with the progress made in 2015, their goals in 2016 include adding new members to our association while achieving a minimum retention rate of 90%. These very dedicated and passionate individuals are here to answer your questions, listen to ways to improve the value you receive from membership and explain the programs and services offered through the NTMA. **Who is your NTMA Regional Rep?**

• Western Region: Whitney Gagle, (480) 717-9636, wgagle@ntma.org

• Midwest Region: Kelly Kasner, (574) 220-9111, kkasner@ntma.org

CONTINUED ON — P6

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• Eastern Region: Drew Swindler, (980) 234-3214, dswindler@ntma.org

The **NTMA Grainger partnership** continues to grow and strengthen. Our agreement with Grainger was enhanced late last year to improve the attractiveness of metalworking products with a 25% discount. Over 250,000 in-stock metalworking line items from some of the best brands in the industry are now featured on the Grainger NTMA branded website. Grainger began adding Metalworking Specialists in 2014 and announced that they now have 30 Specialists in place effective January 1 and will continue to add more throughout the year. Coming from the metalworking industry and knowing how important productivity improvements and reducing production costs are

and productive.

Last but not least, many of our members renew their membership in January. If you haven't heard, we did not increase dues again this year, marking 2016 as our third consecutive year maintaining our current dues level!

As we look forward to the year ahead together, we appreciate your membership. On behalf of the Executive Committee, the

Trustees and all of the NTMA staff, we hope you have a prosperous and successful 2016.

DAVE TILSTONE /
NTMA PRESIDENT

Dave Zilmer



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CHAIRMAN'S CORNER

HERB HOMEYER / NTMA CHAIRMAN OF THE BOARD

A happy and prosperous New Year to the entire NTMA family! Wow, I can't believe it is January 2016. NTMA is continuing to evolve; the new board structure was utilized for the first time this year; modifications to the bylaws have been approved and implemented (a special 'thank you' to the Bylaws and Implementation teams for your hard work and dedication); and we will continue updating the bylaws and evaluate traditions. In addition, all four regional sales and chapter support positions have been filled. With these structural changes, we are positioning the organization to exist for the next generations. With these modifications and our high performing staff, NTMA can only move forward.

SHOP VISITS:

This past year, numerous shops opened their doors for visits. Shop owners, foremen and other team members demonstrated passion and love for the trade and industry in which we are all making our living. Energy and excitement abound while members described a process they just implemented, a new machine tool being used or introduced members of their team and described their roles and im-

portance to the companies. I witnessed some of the most creative companies in America; shops producing micro surgical tools to machining the entire rear drive housing of a Caterpillar D 10R bulldozer in one setup; antenna for GPS satellites to subsea drilling miles under the sea are just a few.

CHAPTER VISITS:

Our federation of strong local chapters is the backbone of NTMA. A number of members, Chapter Executives and local associate members bleed NTMA blue. Associate members have contacted and recruited new members, Chapter Executives have committed to NRL and NTMA-U and Chapter leaders freely give up their time in support of the NTMA.

AUTHENTIC LEADERSHIP:

Thank you to all the members who have embraced this past year's theme. The response has been overwhelmingly positive. My hats off to the authentic leaders I've met in my travels over the last year as your Chairman; the NTMA members working with school personnel and local government officials that willingly back workforce development and apprentice training

through sweat equity and/or financial donations. I am grateful that several of you have requested copies of my speech or sent me personal notes of support.

EXECUTIVE COMMITTEE APPROVED CHANGES:

Going forward, we will no longer have leadership teams for Workforce Development, Membership Value, or Industry Advocacy. These teams are no longer needed due to the strong staff we have in Cleveland. An Action Team will be convened as needed in the future for member value programs. Emerging Leaders and Chapter Executives will remain standing teams instead of being a subset of the Membership Value Team. Workforce Development needs will be performed by the Education and Technology Teams. Industry Advocacy duties will be assumed by the Government Affairs Team. NRL will soon move to a standalone 501(c)3 nonprofit in order to be eligible to receive grants from foundations outside the NTMA. The changes made will help NTMA better serve our members.

AFFINITY PROGRAMS:

Thank you for supporting NTMA programs. Without

your support, we could not achieve our non-dues revenue. You are helping us meet our goal of less than 40% dues revenue.

As the first, second year elected Chairman, I look forward to 2016. The 2016 theme "Emerging Leaders" was chosen by the Executive Committee and is a subject near and dear to my heart. Many of our companies are searching for the next generation of leaders and we have an opportunity to showcase those leaders in NTMA. The Emerging Leaders will hold their second conference in Chicago, June 8-10. What an opportunity we have ahead of us to help deliver the next generation of leaders and NTMA members.

Again, I sincerely thank each and every one of you for your support and guidance throughout the year and I wish you a happy and prosperous 2016.

HERB HOMEYER / NTMA
CHAIRMAN





NTMA-U STUDENTS EXCEL IN THE WORKPLACE

KEN MCCREIGHT, NTMA VICE PRESIDENT

The importance of workforce skills in our nation is growing. Apprentices are expected to keep up with the increasing demands of their course load while improving their level of job performance at the same time. Most apprentices desire to be the best apprentice that they can be. But we as manufacturers are often asked “what really makes an outstanding employee?” As I see it, an outstanding apprentice/employee comes from about 70 percent attitude and 30 percent aptitude. This may even be a conservative estimate regarding the attitude part – and at first sight it may seem ridiculous to speak of 30 percent aptitude – but I have taught over 8,000 apprentices, and to mention this merely as a launching pad for excellence is something I ask everyone to consider in their next apprentice/employee. I believe that attitude creates aptitude; an employee’s attitude is the essence from which an apprentice’s aptitude develops.

When we view the power of learning from the inside out, the history of education will reveal to us a somewhat arrogant and ironic example of ‘outside-in’ practices. Technology today offers us global sharing at a grass roots level, as well as giving us better insights into the psychology of learning. As an instructor for over 25 years, I often believe that my students/apprentices are the ones giving and I am the one receiving.

I have had many outstanding apprentices take modules with NTMA-U, including Sean Osborne of Wagner Machine, Inc.

Osborne began his journey in manufacturing by working in a large pipe supply yard and then in a foundry prior to starting his career in precision machining with Wagner Machine. His duties at the



Sean Osborne receives NTMA-U graduation certificate from Wagner Machine Inc. CFO, Courtney Wagner

pipe yard focused on cutting threads and running pressure tests on the pipe. While employed at the foundry, Osborne spent a great deal of time as a grinder, as well as other areas in the foundry making cast iron. He was always eager to learn new things and was offered the opportunity to work in their auto grind robot department. He embraced the new opportunity and soon began learning more skill-based operations, such as robot maintenance and troubleshooting, and small scale programming/program editing of the robots. By hard luck, Osborne was injured at work and the closest thing to temporary light duty in the foundry was the CNC machine shop, which is where he spent the last two years of his employment there. He soon found that his skills could be better used in precision machining.

Osborne spent a large amount of his free time and time in the shop learning and asking questions catered to the trade attempting to build enough skill to move up from operator status. These skills and his search to start a career led him to Wagner Machine Inc. After a short time of employment, Wagner Machine Inc. CFO, Courtney Wagner, found that Osborne could fit well in an apprenticeship program and she contacted the NTMA to enroll Osborne into NTMA-U. From his first course, he exceeded expectations by scoring 100% on each exam. He focused on learning, and thought nothing of spending 16-20 hours a week completing coursework that was tracked to Precision Machining Apprenticeship with NTMA-U. Osborne mastered all 16 courses as well as additional courses we offer with 100% on each and every test

within 18 months (normally a 36-month program). He found time, with permission from his employer, during machine cycle times as well as at home where his young daughter also had the desire to learn: she would sit close to him each time he opened the computer and try her hardest to be part of what he was doing.

When asked how she knew Osborne would do so well in his courses, Wagner says, “I encourage people to learn as much as they can in the trade, as it only makes them better employees.” Wagner selected NTMA-U as the Wagner Machine training program because of the flexibility of the courses and the high quality that is found in the course content. Wagner is not a stranger to learning new things; her father, as is the case in many family businesses, encouraged her to learn the trade and had her running the band saw at age 14. Her father paid her 25 cents a part, and she was proud to wear the Wagner Machine uniform with her name on it. When Wagner graduated from high school, her father convinced her to attend the NTMA Training for one year before he would consider paying for her to go onto college. Once she was in college, her father guided her to take the courses he felt would be the best for the company by adding incentives to those successfully completed courses. Once she graduated from college her father had her sign a 5-year contract before he brought her into the office at Wagner Machine.



TIPS FOR EVALUATING AND RANKING ENERGY SUPPLY PRICES AND SUPPLIERS

Gain more control over your energy budget and avoid the risk of potential price spikes this winter; NTMA members are advised to closely examine supply prices now while prices are at historical lows not seen since 2002.

How many electricity suppliers do you evaluate when considering supply prices and supply contracts? According to an Energy Research Council (ERC) survey, more than 80% of middle-market electricity customers evaluate only two or three electricity suppliers before making a selection.

If you evaluate only a few suppliers, how do you know if the prices the suppliers provide are low, high or average? What if you leave money on the bargaining table? Would you know? Evaluating only two or three suppliers is likely an inadequate approach; it does not yield

enough actual price intelligence on which to base a long-term business decision and commitment. For a customer with annual usage of one million kilowatt hours, the cost difference between the lowest and highest supplier prices could be \$50,000+ per year.

Electricity consumers appear to be seeking expert advice regarding procurement. The majority (56%) of ERC survey participants responded that they want help evaluating, ranking and selecting energy suppliers. ERC surveys indicate that less than half of respondents renewed with their incumbent supplier the last time they purchased electricity. Why is that? Eighty-eight percent of survey participants that selected a new supplier said "price" was their primary reason for switching suppliers. Given that reality, why would any buyer base a decision on a

limited number of prices from just a few suppliers, particularly when abundant price discovery from many suppliers can be obtained?

Since 2001, NTMA has endorsed APPI Energy to provide data-driven procurement and consulting solutions that reduce and manage energy costs on an ongoing basis. The firm's energy supply procurement platform accesses thousands of prices daily. A staff of experts evaluates suppliers and prices on behalf of 2,300 clients. To learn more, contact APPI Energy at 800-520-6685.



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WHAT WE CAN LEARN FROM BASEBALL

BILL PADNOS, NRL DIRECTOR OF YOUTH ENGAGEMENT



Baseball has played a significant role in my life. From the earliest days of my childhood, I recall walking from my grandparents' apartment to Wrigley Field and playing little league baseball in the Maine Northfield League. But most of all, I fondly remember a trip to the Old Comiskey Park in 1981 where I was able to witness the infamous scoreboard explosion after pinch hitter Jerry Hairston hit a two-run home run in the bottom of the ninth inning turning a 2-1 White Sox deficit into a victory. From that day forward, the White Sox became my lifelong team.

Then, in 2005, the ultimate happened: I was at Game One of the World Series against the Astros with my wife, Shari, who was pregnant with our first child (we had just found out that week). We cheered on the Sox as Bobby Jenks mowed down every Astros batter he faced. As his fastballs reached 100 mph, we knew that no one was going to touch him. I still feel chills up my neck when I think about being at that game.

Since 2005, the Sox have had more uninspiring seasons than good ones. It was downright depressing watching them in person at PNC Park this year as they were swept by the Pirates. What was even worse, later in the year I saw the Cubs play the Pirates in Pittsburgh. In the Cubs, I have witnessed a young, inspired team with a clear direction; one of the best farm systems in the league.

Speaking with Jack Beggs of Wire Tech EDM, Inc. at the NTMA Training Center of Southern California's Metal Crunch National Robotics League (NRL) competition in early December, he made an astounding assertion: the NRL is NTMA's farm system.

Think about that for a minute. Industry advisors may sign up to volunteer to assist our high school robotics teams, but really, they are scouting for new talent. Engaged, young people with a clear direction are easily accessible and ripe for the picking through the NRL program.

According to Jonathan Mayo, MLB.com's draft and prospect expert, only 1%

of minor league baseball players make it to the majors. MLB baseball teams are investing millions of dollars into a system where 99% of the players will never make it past Triple A. The teams are spending valuable financial resources to have scouts on the road 365 days a year when that money could be going to a proven, free-agent pitcher. Why? Because you never know if that high school shortstop in small-town USA could later turn into a 10-year All-Star player.

What makes the Cubs farm team so



Bob Mosey scouting at the NTMA Training Centers of Southern California's Metal Crunch competition

different than that of the White Sox? Theo Epstein was hired by the Cubs as team president to turn around the organization. He was tasked with building from within and when the time is right, to pick up a John Lester. There were growing pains, but every reasonable Cubs fan (I stress the word "reasonable") knew that there was a plan in place. In contrast, the White Sox still have not developed their plan for the 2016 season. They are reportedly planning to go to the winter meetings and see which way the wind is blowing.

Would you say your company is the Cubs or White Sox?

If your farm system is the local colleges or vocational schools, then you do not have one. Those students are free agents and will only sign if you can bring them the best contract. A better farm system is the local high school down the street from your facility that you have established a

relationship with over the years by being their NRL Industry Advisor.

Unlike the MLB teams, you do not need to invest millions in developing these students into your future workers. You have the opportunity to witness the students move up through the system as they learn new skills and about work ethic. This is home grown talent that has an appreciation for you and your company.

The entire Chicago Cubs infield this past year played in their minor league system and they did pretty well. My White Sox signed 36 year-old Adam LaRoche as a free agent and he preceded to have his worst offensive year ever. By the way, Adam LaRoche made more money last year than the Cubs starting infield in the playoffs.

But, as you are reading this article, NRL teams from around the country are working on their Bots and getting ready for the regional competitions in the spring. Check out www.gonrl.org for the list of competitions and invest the time to scout the talent. Better yet, start to plan for next year. Take the time to visit your local high schools to see if they would be interested in becoming part of your farm system and participate in the NRL program. The NRL Industry Toolkit at www.gonrl.org/toolkit provides you with all of the information you need regarding how to establish a relationship with your local schools and how to be an advisor.

Look at your current team. Do you need an influx of young talent? I am sure that 99% of you are saying "YES." The question is, "do you want to compete for talent, or do you want to develop your own? As a White Sox fan, it kills me to say that I would rather have an infield of Rizzo, Baez, Russell and Bryant than all of the stop gaps that the White Sox have had since 2005. But the truth not only speaks volumes, it can be measured with identifiable results.



PITTSBURGH CHAPTER MEMBER COMPANIES RECOGNIZED WITH MANUFACTURER OF THE YEAR AWARDS

Two member companies of the NTMA Pittsburgh Chapter, Cygnus Manufacturing Co. and Ace Wire Spring & Form Co, Inc., were recognized with the Manufacturer of the Year award presented by Pittsburgh Business Times in December.

The Manufacturer of the Year awards, six in total, are designed to recognize success and innovation in Pittsburgh companies. According to the paper's Publisher, Alan Robertson, the nominated companies represent the rebirth of the American manufacturing industry. According to the Pittsburgh Business Times, the quality of the nominees made judging particularly difficult for the 2015 awards.

Cygnus Manufacturing Co. received the large company category award. Cygnus, based out of Saxonburg, is a precision

manufacturer of products and components for non-invasive medical devices, transportation, scientific instrumentation, energy, aerospace and defense applications. "As a proud member of the NTMA, Cygnus Manufacturing was elated to be recognized as the Pittsburgh Business Times 2015 Large Company Manufacturer of the Year," says Cygnus President and CEO, John Maholtz. "We appreciate the role that the NTMA has played in helping us gain this recognition."

Ace Wire Spring & Form Co, Inc., of McKee Rocks, received the Pappafava Family Business Award. "This was one of the greatest honors our company has ever received," says Linda Froehlich, owner of Ace Wire Spring & Form Co, Inc. "I can't help but think my father and grandfather



2015 Manufacturer of the Year award
presented by Pittsburgh Business Times

would be very proud. Our employees are really the reason for this success. We are honored, humbled and proud." Ace Wire Spring & Form Company, Inc. has been a leading manufacturer of Compression Springs, Extension Springs, Torsion Springs and Wire Forms since 1939.

Congratulations to these companies and the Pittsburgh Chapter!



GROB OPEN HOUSE

NTMA members were among 30 U.S. manufacturers who recently traveled to Germany for the open house at National Associate Member, GROB Systems.

With 1.2 million square feet under roof, the GROB campus near Munich is the largest machine tool manufacturing facility in Europe. The company is known for its production lines used in the automotive industry as well as stand-alone, 5-axis machining centers for aerospace, die mold, medical and other industries.

GROB is a family-owned company, now in its third generation. In a general welcome to visitors attending the bi-annual open house, General Representative Christian Grob explained recent changes at the campus.

"Over the last few years, our investments in assembly shops and machinery have not only almost doubled capacities at the Mindelheim site, but they have also made a key contribution towards optimizing our vertical integration and production processes," Grob said.

The theme of vertical integration was clear during the facility tour. Visitors saw machining of castings and all major components, as well as assembly of spindles, rotary tables, tool magazines, and an array of automation systems, all designed and built in house. The GROB philosophy is that control of the process ensures higher quality and reliability in the finished product.

The hub of the open house event was the newly designed Technology and Applications Center, with more than 30 supplier exhibits and demonstrations on 17 machines and automation systems.

Highlights included the new G800 universal machining center with a large 800 x 800 mm (31.5 x 31.5 in) pallet for machining large and complex vehicle or aircraft components. The mid-side G550 showed off the flexible configuration of the G-Series with a high-speed rotary table for turning, a 3-level rotary pallet storage system, and a double-disc, 120-tool magazine.

"The focus is on our worldwide innovation, the G800. This is the first universal

machining center of an entire series of large-scale machines developed for use in the heavy-goods vehicle industry as well as for general mechanical engineering in the aviation industry, in mold construction and in energy technology," says Member of the Board and CSO, Jochen Nahl.

Visitors also toured the high-tech training center that is the new home to the GROB apprenticeship program. With a total floor space of nearly 54,000 square feet, it is the flagship training facility for the group and+ currently has a class of 74 apprentices.

Headquartered in Mindelheim, Germany, GROB has three additional production plants in Bluffton, Ohio, Brazil, and the People's Republic of China, as well as nine sales and service branch offices. GROB Group employs approximately 5,000 people worldwide and reported annual revenue of exceeding 1 billion Euro in 2014.



“ WE PUT OUR MOST
IMPORTANT JOBS ON
THE MAKINOS BECAUSE
WE KNOW THEY ARE
GOING TO RUN. **THEY’RE
INCREDIBLY RELIABLE
MACHINES.** ”

Machining Engineer



When it counts, successful shops count on Makino.
Hear their stories at [Makino.com/reliability](https://www.makino.com/reliability).



WINNING AT TITANIUM MACHINING

MACHINE BUILDER FIVES CINCINNATI FINDS KENNAMETAL'S KM4X™ SPINDLE CONNECTION KEY TO ACHIEVING NEW LEVELS OF METAL REMOVAL ON INDUSTRY-LEADING "SUPER-PROFILERS"

What does production superiority mean to aircraft manufacturers? In a word: billions. In the land of the giants, U.S.-based Boeing beat European rival Airbus in net new orders and deliveries in the first quarter of 2015. While the first quarter is the traditionally slow quarter for new orders, it's deliveries that generate the most revenue, and Boeing handed over a record number of jets for the period. For manufacturers of all sizes and types of aircraft, and their entire supply chain of components and parts suppliers working in difficult-to-machine materials, production delays can mean order cancellations, and cancellations can mean shifts to better-equipped builders.

One technology provider that knows this better than most is Fives Cincinnati, whose Hebron, KY, plant produces Cincinnati machining centers, composites fiber-placement systems and multi-spindle Cincinnati profilers. With over 650 profilers in the field all over the



The Fives Cincinnati XT profiler with five spindles for titanium milling.

world, there isn't a commercial aircraft flying that hasn't been touched by a Cincinnati profiler, the company says.

Available in three- and five-spindle gantry configurations, the latest-generation of these powerful giants, the Cincinnati XTi Profiler, is impressive on many scales. Designed for manufacturers that process multiple materials, 7,000-rpm spindles can cut aluminum and steel, and high-torque (2,523 Nm) spindles are available for processing titanium and other hard alloys. Called "the only multi-spindle platform available for titanium roughing," company literature states the XT sets the MRR (metal-re-

The business end of a five-spindle XT profiler.



moval rate) record for machining titanium at more than 100 cubic inches per minute. These massive machines, with 4,267 mm of X-axis travel (expandable in increments of 3,658 mm), 3,683 mm in Y, and 711 mm in Z, now are setting new records with optional KM4X100 spindle connections from Kennametal Inc.

FROM WEAKEST LINK TO STRONGEST FEATURE

Whether profiling on large gantry machines or milling on smaller machining centers, processing tough material like titanium is a constant challenge. Machining hard alloys while adding the pressure of improving production efficiencies means maximizing metal removal in the face of low-cutting speeds and significant cutting forces. Machine tool builders like Fives have responded

with specialty milling and profiling centers that feature improved stiffness and damping on spindles and sizable machine structures, all to minimize undesirable vibrations that deteriorate part quality, throughput and tool life. Although these advances have added to greater productivity, the weakest point historically has been the spindle connection.

The tool-spindle connection, the "handshake" between the machine tool and the cutting tool, determines how much material the machine can remove on a given operation. This is because this interface must withstand high loads and yet maintain its rigidity until tool deflection is too high or the onset of chatter is reached. Spindles may be able to transmit a considerable amount of torque, but cutting forces also generate bending moments that will exceed the interface's limits prior to reaching torque limits. This becomes obvious in end-milling applications, where projection lengths are typically greater - the limiting factor is the spindle interface's bending capacity. As an example, an indexable helical cutter with 250mm (9.84 in.) projection from spindle face, 80mm

CONTINUED ON — P14

SAVE THE DATE

DON'T MISS OUT!

NTMA

TECHNOLOGY TEAM

NTMA Tech Team Webinar

"Increasing Manufacturing Tolerances Using Geometric Tolerancing"

Presented by:

TECHNICAL CONSULTANTS INCORPORATED

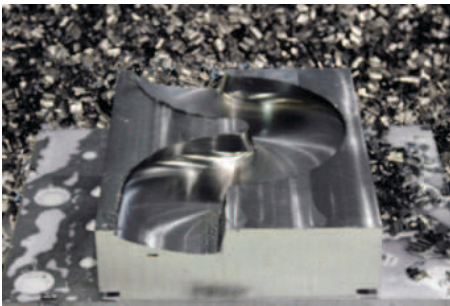
www.technicalinc.com

Tuesday January 26, 2016: 1:00pm

The presentation will start with the problems of using only plus/minus tolerances, then show how GD&T can provide better communication between design, manufacturing and inspection as well as increasing manufacturing tolerances.

(3.15 in.) in diameter generates 4,620 Nm (3,407.5 ft. lbs.) of bending moment and less than 900 Nm (663.8 ft. lbs.) of torque when removing 360 cm³/min of Ti6Al4V at RDOC of 12.7mm and an ADOC of 63.5mm.

By combining high clamping force and optimized interference levels, Kennametal's next-generation spindle connection KM4X provides a robust connection, extremely high stiffness, and bending load capacity. For titanium processors, this means greatly improved performance in machining high-strength alloys and other materials, enabling extremely high metal removal rates and more completed parts per day.



A challenging "bobsled" test cut designed to max out torque and cutting forces is accomplished with ease on the Fives Cincinnati XT profiler with KM4X spindle connection

ADDS MORE TO MACHINE DESIGN

Together with Kennametal Senior Account Manager, Mike Malott, Fives Cincinnati Applications Engineer, Robert Snodgrass, began evaluating KM4X approximately four years ago. "The engineering is impressive – it definitely allowed us to start thinking that there's more to machine design, that a stiffer spindle helps meet customer demand for more effective metal cutting and increased throughput."

"Remember, typical aero structure components start out as forgings with much of the material being removed to achieve finished part specifications," says Kennametal Vice President Mark Huston. "The 'buy-to-fly' ratio – the weight you buy in raw material vs. the weight that flies in finished form – can be 4:1, 8:1 or more depending on the component."

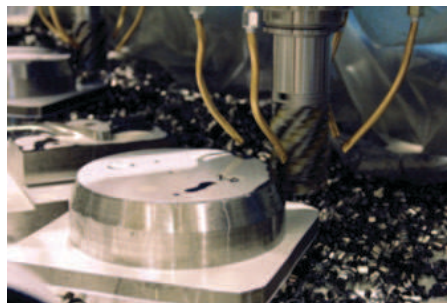
First-generation Cincinnati profilers achieved an MRR of four cubic inches per minute in titanium, due to machine structure and tool-spindle connection

limitations. With the XT-generation of Cincinnati profilers and face-contact HSK 125 spindle connections, the MRR increased to 50 cubic inches per minute. With the KM4X100, the MRR doubled to 100 cubic inches per minute.

"Even at 100 cubic inches per minute, our benchmark testing for the XT profilers using the KM4X was well below the machine's theoretical limits for bending moment resistance," Snodgrass adds. He noted that previous-generation tests employed large CAT60-taper toolholders that, when compared to 50-taper versions, are like driving a tank versus an SUV. The KM4X achieved double the metal removal rates versus the 60-taper toolholder. Compared to CAT50, HSK100, or KM4X100 the CAT60 is almost twice the weight.

"This changes spindle and machine design a ton," says Ken Wichman, Fives Cincinnati product manager. "Many gantry machines have manual tool exchange even though automatic tool exchange/storage is available. The enhanced bending moment resistance of the KM4X allows lighter tooling when compared to a CAT or HSK tool with an equivalent bending moment resistance. Ergonomically, this is a huge benefit to the operator. For customer's choosing automatic tool exchange/storage, the smaller KM4X can accommodate more tools in a given footprint."

"We pride ourselves in keeping customers productive," adds Fives Cincinnati Vice President Mark Logan. "Not only is a more powerful spindle connection like KM4X changing new machine design, it also can be a significant boost for existing machines in the field. This gives us the chance to offer a notable upgrade in retrofits while still pushing the limits on profiler models to come."



Profiling in action

"The industry needs to set new standards for producing titanium parts at the lowest cost per piece, and the XT Profiler provides that capability and more," says Fives Cincinnati Executive Vice President, Chip Storie. "With a massive cross-rail, robust spindle design, dedicated foundation, and high-pressure coolant system, we expect to exceed 100 cubic inches per minute metal removal. This is going to change the way the industry approaches titanium machining."

ANALYZING THE BOBSLED CUT

Malott, Kennametal senior account manager, has spent years in the field to where he had been granted "family" status on the Fives Cincinnati production floor. He also has noticed that the FIVES "bobsled cut" for establishing cutting-tool performance has been making its way around the industry.

"To truly put a new configuration through its paces, we had to develop an extremely challenging test – truly something for which the tool was not intended," says Snodgrass.

The result was forcing a tool through a titanium workpiece following a deep and continuous curve, similar to a bobsled track. "We wanted to max out penetrating depth and torque in a simultaneous-motion cut, all the time subjecting the machine tool and the spindle/cutting tool to extreme forces in every possible way."

Experienced titanium processors may wince thinking of the screams that would come from the workpiece prior to either the machine tool or the cutter failing. But as the Fives video on YouTube proves, a small mountain of chips from a deep and wide test cut can be processed efficiently at a pleasant hum, even on five separate spindles. The proof is in the performance, and further improvements are on the horizon.





MANUFACTURING AMERICA'S FUTURE

January 13th

Plant Managers Roundtable, Charlotte, NC

February 10th

Sales & Marketing Workshop, Dallas, TX

February 17th

Financial Managers Roundtable, Atlanta, GA

February 28th-March 1st

Chapter Leadership Summit, Palm Desert, CA

March 2nd-5th

MFG, Palm Desert, CA

March 23rd

Employee Management & Benefits Workshop, Indianapolis, IN

April 11th-13th

Legislative Conference w/ Emerging Leaders, Washington, D.C.

April 17th-24th

Japan Tech Tour

April 20th

Financial Managers Roundtable, Pittsburgh, PA

May 20th-22nd

NRL Competition, California, PA

May 20th

Workforce Development Roundtable, California, PA

June 8th-10th

Emerging Leaders Conference, Chicago, IL

June 8th

Financial Managers Roundtable, Denver, CO

September 12th-17th

IMTS, Chicago, IL

September 28th

Sales & Marketing Workshop, Philadelphia, PA

October 12th-15th

Fall Conference, Charlotte, NC

October 26th

Plant Managers Roundtable, Boston, MA

November 2nd

Sales & Marketing Workshop, TBD

November 2nd-3rd

Supply Chain Network Fair, TBD

November 16th

Plant Managers Roundtable, Denver, CO

2016 NATIONAL EVENTS AND TECHNICAL SEMINARS





NATIONAL EVENTS

Chapter Leadership Summit

**February 28th-March 1st,
Palm Desert, CA**

Build relationships with new and seasoned Chapter Leaders. Learn how other chapters are advertising the benefits of NTMA Membership. Meet the NTMA Staff and ensure your voice gets heard on subjects that affect your chapter. Hear a different view about Board and Chapter dynamics from chapters around the country. Discover different chapter models.

MFG Meeting

**March 2nd-5th,
Palm Desert, CA**

The MFG Meeting brings together the complete manufacturing chain for a unique conference experience that provides unparalleled opportunities to network with industry leaders. The business sessions and speaker presentations are designed to address key business challenges and provide solutions to improve your business. The event is hosted by the two major manufacturing trade associations, AMT – The Association For Manufacturing Technology and NTMA - The National Tooling and Machining Association.

Legislative Conference w/ Emerging Leaders

**April 11th-13th,
Washington, D.C.**

Bring some common-sense solutions to Washington and join us for the seventh-annual NTMA/PMA One Voice Legislative Conference. This is your chance to have your voice heard directly by the policymakers who are creating the laws of the nation. Mark your calendars and meet us in Washington D.C. to represent manufacturing in America. We will be offering Emerging Leader tracks on Monday before the conference, so be sure to register your Emerging Leaders!

Japan Tech Tour

April 17th-24th

Drive efficiency, quality and process optimization on in your own business by visiting factories outside the U.S. National Associate Members BIG Daishowa, Mazak, Blaser, and Memex will host a 4-day tour for NTMA members to manufacturing facilities in Japan. Attendees will see complementary product offerings and the full process of technology development and manufacturing at each location.

NRL Competition

**May 20th-22nd,
California, PA**

NRL participants design and build robots using standard manufacturing processes to withstand hostile environments. In doing so they learn first hand what can be drawn cannot always be manufactured. They also learn there is a huge difference between building a machine that can operate under ideal circumstances and one that has been built to withstand harsh environments.



NATIONAL EVENTS

Emerging Leaders Conference

**June 8th-10th,
Chicago, IL**

The NTMA Emerging Leaders Conference offers up-and-coming professionals from around the country the opportunity to gather in an intimate setting to learn, share insights and discuss the issues that matter most to them and their leadership position. This conference is a high-impact fast-paced one day event that includes a variety of concurrent professional development sessions, workshops, networking opportunities, and moderated roundtable discussions.

IMTS

**September 12th-17th,
Chicago, IL**

The International Manufacturing Technology Show is one of the largest industrial trade shows in the world, featuring more than 2,000 exhibiting companies. More than 114,000 industrial decision-makers, including many of your competitors, attend IMTS - the International Manufacturing Technology Show - to get ideas and find answers to their manufacturing problems.

Fall Conference

**October 12th-15th,
Charlotte, NC**

The Fall Conference is an excellent opportunity to take advantage of your NTMA membership. With lots of valuable content being offered between Technology Seminars, Business Development Tracks, Roundtables, and our Networking Events, this is one NTMA Event you don't want to miss! Meet other NTMA members, National Associate Members, get to know the Executive Team, and find out what's happening and new in the manufacturing industry!

Supply Chain Network Fair

**November 2nd-3rd,
Location TBD**

More than your traditional Purchasing Fair, the Supply Chain Network Fair will bring together buyers and sellers and provide an ongoing forum to stay connected. The Supply Chain Network focuses on aligning OEMs and large companies with highly competitive and skilled domestic small-to-medium sized manufacturers that specialize in machined, stamped and fabricated parts, special tooling (dies, molds, jigs, fixtures and gauges) and special machines, ultimately providing a more economical resource for sourcing needs.

TECHNICAL SEMINARS

NTMA

FINANCIAL MANAGERS ROUNDTABLE

February 17th, Atlanta, GA
April 20th, Pittsburgh, PA
June 8th, Denver, CO

Join with other NTMA financial managers and professional experts to discuss Tax Credits & Incentives, Health Care Reform, Maximizing Access to Working Capital & Cash Flow and Retirement Plan Management.

Registration Rates

Early Bird - Member	Regular - Member	Non-Member
\$300	\$375	\$500

Meet with NTMA members and HR Professionals to discuss some of the industry's hot topics in Human Resources. The Employee Management & Benefits Workshop will touch on topics that include Top-grading your Employees, Employment Law Case Studies, OCEC Reporting, Benefits to Attract and Retain Workers, and Employee Relations.

Registration Rates

Early Bird - Member	Regular - Member	Non-Member
\$300	\$375	\$500

NTMA

EMPLOYEE MANAGEMENT & BENEFITS WORKSHOP

March 23rd, Indianapolis, IN

NTMA

PLANT MANAGERS ROUNDTABLE

January 13th, Charlotte, NC
October 26th, Boston, MA
November 16th, Denver, CO

Network with Plant Managers from NTMA member companies and discuss new techniques and the many ways to improve production at your facility. Each roundtable will start with a Plant Tour at a member company the day before the educational sessions. The educational sessions will allow you to learn about new technologies, Manufacturing Metrics, Lean Manufacturing, and the Importance of Additive Manufacturing.

Registration Rates

Early Bird - Member	Regular - Member	Non-Member
\$300	\$375	\$500

Meet with NTMA members and HR professionals to discuss some of the industry's hot topics in Human Resources. The Employee Management & Benefits Workshop will touch on topics that include Top-Grading your Employees, Employment Law Case Studies, OCEC Reporting, Benefits to Attract and Retain Workers, and Employee Relations.

Registration Rates

Early Bird - Member	Regular - Member	Non-Member
\$300	\$375	\$500

NTMA

WORKFORCE DEVELOPMENT ROUNDTABLE

May 20th, California, PA

NTMA

SALES & MARKETING WORKSHOP

February 10th, Dallas, TX
September 28th, Philadelphia, PA
November 2nd, TBD

Connect with NTMA Sales and Marketing professionals and industry experts to learn how to boost your business and increase leads. With sessions that include a Best Practices Presentation, a Buyer Panel with Industry Experts, and a Sales Workshop that will drill down into each attendees' sales techniques and processes, you won't want to miss this opportunity!

Registration Rates

Early Bird - Member	Regular - Member	Non-Member
\$450	\$525	\$650

All Topics Subject to Change



Continuity is key in succession planning. We BOTH need to attend The MFG Meeting.

THE MFG MEETING

March 2 - 5, 2016 | Palm Desert, California
JW Marriott Desert Springs Resort & Spa

In a few short months, The MFG Meeting will bring extraordinary speakers, invaluable networking and unexpected opportunities to be inspired.

www.theMFGmeeting.com

Register and book your hotel now!

Presented by



MOUNTAINSIDE MEDICAL RECEIVES NTMA'S TOP 6S AWARD

Mountainside Medical of Boulder, Colorado, was awarded NTMA's Top 6S Excellence Award for successfully implementing a company-wide 6S Program.

Achieving Class-A status is often a long-term, incremental process for most shops, but Mountainside Medical achieved it in a relatively short period of time. "When we made the decision to pursue 6S, we also made the commitment to invest both money and human resources to support it," says Mountainside Executive VP, Pete Neidecker. "We didn't look for an immediate return on the investment, rather perceiving that the long term benefit would yield a more efficient workplace with higher employee satisfaction. We were right, and the savings have also

come through in unexpected ways: obvious waste, less lost assets, and lower in-process inventory to name a few."

The goal of the 6S Award program is to help shops improve their and our industry's image, while also making the workplace safer, more efficient and more profitable. NTMA's Technology Team has published numerous guides, tutorials and examples on the NTMA website to help shops get started. Congratulations, Mountainside Medical!

WHAT IS "6S"?

To be eligible for the NTMA 6S Award, a company must demonstrate best-in-class performance in 6 assessments:

- Safety: throughout the entire process, safety is number one



NTMA Technology Team Leader Mike Hirsch presents Mountainside Medical Continuous Improvement Engineer, Robert Parentand, and Executive VP, Pete Neidecker, with NTMA's Top 6S Award

- Sort: separating what is necessary and disposing of the unnecessary

- Set in order: having a designated place for everything, and keeping things in set place

- Shine: clean floors, work areas and equipment

- Standardize: establishing

consistent schedules and methods for cleaning and organizing work areas

- Sustain: auditing and monitoring the schedules and sticking to the rules



NTMA TECHNOLOGY EXCELLENCE AWARD



The NTMA Technology Excellence Award is designed to recognize and share excellence shown in these fields, strengthening the precision contract manufacturing industry. We are currently accepting nominations for the Technology Excellence Award.

The Association for Manufacturing Technology's (AMT) Technology Issues Committee (TIC) is a proud sponsor of this award and has underwritten the NTMA Technology Excellence Award in the amount of \$5,000. Each award recipient receives \$2,500 (less trophy, shipping, etc.).

The Technology Team focuses on two award categories, Technology and Business/

Cultural practices. Each focus is broken down into two subcategories:

TECHNOLOGY, ADVANCED DEVELOPMENT AND/OR INTEGRATION:

Advanced manufacturing technologies are strategically targeted or developed in order to achieve improved results in the following core fundamentals: market development, throughput, scrap, and/or safety. Proven technologies are integrated with pre and post processing technologies in ways that improve core fundamentals. Technologies developed or adapted are innovative and "rare." Technologies are used to elevate the work of people through growth, not replace people.

TECHNOLOGY, LEAD TIME REDUCTION THROUGH FLOW, SAFETY, AND ORGANIZATION:

Plant-wide efficiency is measured through reducing internal lead times, safety improvements and addressing physical changes and design standards. Effective training and awareness, thorough incident investigations, re-design and layout ensures an orderly, efficient and safe workplace. Everyone routinely adds to a safe working environment through programs such as 5S/6S organization. Value stream analyses provide a road map; non-value-adding steps in the manufacturing and administrative processes are gradually eliminated; a "pull" strategy is

used where warranted; product flow is increasing.

BUSINESS/CULTURAL PRACTICES, LEADER/ASSOCIATE PARTNERSHIPS, WORLD-CLASS PERFORMANCE:

Leaders and employees have found new ways of defining their roles and function as a partnership to meet company objectives and goals. Senior management is committed to developing highly effective leaders. All levels of plant leadership provide effective coaching, training and mentoring to subordinates. Plant communication is excellent, morale and job satisfaction are high and the shop floor goes "above and beyond" to achieve world-class performance.

CONTINUED ON NEXT PAGE

The organization establishes key performance indicators (KPI) in all areas of the operation, developed at the operating level and tied to plant goals. The process is dynamic and engages the entire organization, and there is a clear "line of sight" between individual/team effort and plant performance. Visual management practices such as scoreboards, etc. are in use throughout the plant for measuring, controlling and improving operations. Operational status information is presented accurately and in "real-time" to anyone who needs it. Individual and team efforts are recognized and rewarded for meeting targeted improvements.

HOW IT WORKS:

- NTMA members who demonstrate advanced application of a technology or business practice which results in improved business performance are eligible for nomination.

- Nominations are submitted to the Technology Team by the Chairman, Chapter Executives, regular members and/or associate members.

- Winners are selected by the Technology Team with input consideration from AMT's Technology Issues Committee as judged against selection criteria: business impact, innovation, longevity, etc.

- Winners will be presented at the NTMA general assembly at the MFG Meeting in Palm Desert, CA, on March 2nd, 2016.

- Recipients will present a brief description of their awarded technology or practice at the MFG Meeting following the NTMA general assembly.

Nomination deadline is January 29, 2016. For more information, contact Mike Hirsh at mike.hirsh@hppi.com.



PROTECTING EYES AND LUNGS

Any day, employees, visitors and coworkers may encounter many common hazards while inside your shop or office. These hazards include:

- Dust, concrete and metal particles
- Falling or shifting debris, building materials and glass
- Smoke, noxious/poisonous gases
- Chemicals (acids, solvents, fuels, wet or dry cement powder)
- Thermal hazards and fires
- Blood-borne pathogens (hepatitis or HIV) from blood, body fluids and human remains

When preparing for emergency responses, it's important to determine what types of safety equipment are best suited for any given emergency situation.

PROTECTIVE EYEWEAR – MAKING THE RIGHT CHOICE

To help ensure personal safety, it is important to wear the proper eye and face protection. Select eye protection based on the ANSI Z87+ standard. The Z87+ mark appears on the lens or frames.

SAFETY GLASSES:

Although goggles are a better choice, safety glasses should be worn when there may be minor dust, chips or flying particles. They should have side protection, and are available with either side shields or a wrap-around style. Use an eyewear retainer to keep the glasses on tight or close by.

GOGGLES:

Goggles should be used when higher impact protection is needed, there is a greater amount of dust, or a chemical splash may occur. Goggles with indirect venting should be used for splash or fine dust protection. Direct-vented goggles should be used when working around large particles. Safety goggles designed with high air-

flow will help minimize fogging, while providing better protection from particles and splashes.

FACE SHIELDS:

Face shields offer full-face protection from spraying, chipping, grinding and chemical or blood-borne hazards, plus additional protection from high impact. They are available in tinted or metal-coated styles for heat and splatter protection. Because the curve of the face shield will allow particles or chemicals to come from the sides into the eyes, safety glasses or goggles must be worn under a face shield at all times.

PRESCRIPTION GLASSES & CONTACT LENSES:

Anyone who wears prescription glasses should wear snug goggles over their glasses. Contact lenses may cause corneal abrasion when working in dusty areas, unless tight fitting goggles or a full-face respirator is worn. Full-face respirators may not seal properly over prescription or safety glasses. To avoid this problem, prescription inserts, which are compatible with a respirator, should be used. Polycarbonate or Trivex(TM) lenses should be used when working in high impact areas.

Make sure eye protection is in good condition. Eye protection must fit properly and needs to remain in place while at the emergency site. For greater protection, it is best to place a face shield over glasses or goggles.

It is important to always be prepared with first aid knowledge in case of eye injuries. The National Institute for Occupational Safety and Health (NIOSH) is a good source of information.

RESPIRATORY EQUIPMENT – BREATHING SAFELY

Respiratory protection is a key element in the range of personal protective equipment (PPE) essential for first

responders and others in any scenario where there is exposure to chemical, biological, radiological and nuclear (CBRN) hazards.

Along with appropriate eye-wear, respirators help provide the best protection from dust, chemicals and smoke inhalation. They are available in full- or half-face styles. When half-face respirators are used, make sure that the respirator does not interfere with the proper positioning of the eye protection.

Respiratory equipment is categorized by classification and is listed according to the degree of protection afforded for environments containing various chemical or biological threats. For example, SCBAs (self-contained breathing apparatus) and APRs (air purifying respirators) are now classified by their specific levels of approval, e.g. NFPA, NIOSH, etc.

Knowing how to fit test, use, clean, maintain and store the respiratory equipment is critical. Users must follow the manufacturer's requirements and guidelines for training and storage. Each manufacturer must supply their requirements with every respirator. Purchasers also must understand the distinction between air-purifying respirators certified under previous NIOSH standards and those released after March 7, 2003, which, for example, may protect against a broader array of CBRN agents.

If you have not recently conducted a review of your respiratory protection program, now's a good time. Those in high-risk locations and industries also are urged to educate their employees, particularly those who are designated to respond to and/or required to escape from a possible emergency or terrorist attack.



SCHUNK PROUDLY TAKES PART IN THE FIRST NATIONAL AND STATE APPRENTICESHIP WEEK



North Carolina Governor Pat McCrory and the North Carolina Department of Commerce recognized the best apprenticeship programs in the state during a ceremony held November 5th. NCTAP, Apprenticeship 2000, Apprenticeship Catawba and Siemens Charlotte were all recognized for their leadership and mentoring of two new groups in Guilford and Alamance counties.

NTMA national associate member, SCHUNK, is a partner in the NCTAP Program. This 4-year program, based in North Carolina's Triangle area, focuses on integrated basic training which develops technical, methodological, and social skills. The core training program gives apprentices an excellent opportunity to develop a wide range of skills with a hands-on approach.

"We are extremely proud of our ap-

prentices and their tenacious drive to learn," says SCHUNK President, Milton Guerry. "They add tremendous value to SCHUNK and we enjoy watching them



SCHUNK apprentice, Jack Rensel

grow within our company."

Governor McCrory spoke during the ceremony regarding the importance of apprenticeship programs in NC and the nation as well as the impact of the right education for our young adults.

Jack Rensel, a second year SCHUNK apprentice, also spoke about his life before NCTAP, how he found out about the program, and how much he has learned at SCHUNK in the past 12 months. Rensel says the program allowed him "to really understand the manufacturing environment and how everybody in the process comes together for a big picture." The audience was touched by his enthusiasm.

To learn more, please visit NCTAP's website at www.nctap.org or go to <http://www.dol.gov/apprenticeship/>



CALLING ALL POTENTIAL EXECUTIVE COMMITTEE CANDIDATES!

In its ongoing mission to find qualified members for the Executive Committee, the Nominating Team asks for your help in identifying potential candidates.

We have comprised the below list of attributes or qualifications of an Executive Committee member, both internal and external. If you know someone fit for the position, please forward their resume, including any past or current board work they have done, to the Nominating Team. For more information, contact Nominating Team Leader Bob Mosey at bob@moseys.com.

EXECUTIVE COMMITTEE MEMBER ATTRIBUTES

- Be an experienced, effective board member
- Independent thinker
- Learn/understand the purpose of the industry and association
- Support the purpose of the organization
- Understand the role and responsibilities
- Ability to think outward and forward - not inward and backward
- Focus on the whole, not just parts.
- Be disciplined, attend meetings and follow the bylaws and rules
- Be part of, and responsible for, the effectiveness of the board
- Focus on the make-or-breaks while limiting trivial
- Willing to be judged based on mutually agreed to performance criteria

BOARD SERVICE

- Help establish the annual board focus
- Be prepared to actively participate
- Partner with CEO
- Open to diverse opinions
- Able to work with fellow board members
- Able to support final choices of the board
- Ensure you are working on the right NTMA agenda
- Determine what is needed to be a more effective board
- Be a major resource to industry and staff if called upon



NIMS, GENE HAAS FOUNDATION AND EDGE FACTOR LAUNCH INSPIRE GRANT PROGRAM



NIMS, Gene Haas Foundation and Edge Factor announced a new partnership to provide schools and training centers with cutting edge educational materials to inspire students and provide pathways to advanced manufacturing careers. Through the INSPIRE Grant Program, schools will receive funding towards eduFACTOR memberships, providing them access to an extensive library of cinematic films and TV series; CTE, STEM and event resources; hands-on CNC and 3D printing; and other interactive activities.

“With 3.5 million manufacturing jobs needing to be filled over the next-decade, our economic competitiveness depends on preparing today’s students for current and future jobs,” says Gene Haas Foundation’s Kathy Looman. “eduFACTOR is a critical resource to help educators and students understand and embrace the skills they need to be successful in advanced manufacturing jobs.”

A recent survey found that only 30% of Americans believe that schools encourage students to pursue manufacturing careers and that only 1 in 3 parents encourage their children to consider a career in manufacturing. The resources available in eduFACTOR, which is produced by Edge Factor, will directly address this perception by helping educators make manufacturing careers and technology relevant and exciting to students and their parents.

“Edge Factor believes that everything starts with a good story, which is why we produce story-driven, cinematic films and accompanying resources that educators and business leaders use to inspire students and parents,” says Jeremy Bout, Edge Factor producer and host. “With eduFACTOR, imaginations are sparked and careers are launched. We are proud to stand beside exceptional, forward thinking leaders in manufacturing education like the Gene Haas Foundation and NIMS to impact communities and help make these resources available to more schools.”

Through funding from Gene Haas Foundation, up to 500 schools will receive full access to eduFACTOR. “Without the Grant, it would not be possible to provide eduFACTOR memberships to schools across my district,” says Marlo Loria, CTE

Director at Mesa Public Schools. “So many people talk about filling the skills gap, but Edge Factor is doing something about it. The Edge Factor video content is Hollywood-quality and draws the audience into the fast paced and exciting world of manufacturing. By changing the way communities perceive manufacturing, they are moving the needle in education and workforce development.”

“NIMS is committed to empowering companies and education institutions to build a skilled workforce in their com-

munities by equipping them with the right knowledge, tools and resources,” says NIMS Executive Director, James Wall. “The INSPIRE Grant Program will enable more schools to deliver relevant and exciting information and career training to their students.”

For more information about the INSPIRE Grant or to access an application, visit www.nimsready.org.



THE IMPORTANCE OF RETAINING & REWARDING EMPLOYEES

DOUG DEROSE, NTMA VICE PRESIDENT/CHIEF FINANCIAL AND ADMINISTRATIVE OFFICER

Workforce Development in the manufacturing sector of the United States has been, and will continue to be, a major challenge. And while the NTMA offers a couple of programs to help – including the NTMA-U employee training programs and the NRL’s youth involvement in manufacturing and STEM programs – there’s another side to the coin: how do we retain the valuable employees already helping to run our businesses every day?

Recently, I’ve read a number of articles that highlight the important of retaining and rewarding employees and areas to focus on in the current job market. Here are the top five most important takeaways I found:

1. KEEP EMPLOYEES AWARE OF OPPORTUNITIES FOR ADVANCEMENT:

If a top performer can’t find work that is challenging and will help grow their career, they are more likely to grow dissatisfied and look for new positions. Always keep your top performers aware of clear opportunities for advancement and promotion. As a result, you will not only keep those top performers, but also keep morale high for all employees.

2. JOB RECOGNITION LEADS TO JOB SATISFACTION:

Make no mistake about it; management recognition is a real incentive to high performers. Make sure your best employees know they contribute to the overall success

of the company, and they will stick around. And sometimes, the smallest recognition goes the furthest.

3. EMPLOYEES ARE “APPRECIATING ASSETS”:

I saw this term in an article and cringed at the corny accounting terminology being used, but it really is an apt description. For most companies, employees are their most valuable assets – and with more training, experience and education, their value continues to increase. And when you realize the cost of replacing an employee can be one-and-a-half to two times the positions salary, you want those top performers to be with you for the long haul.

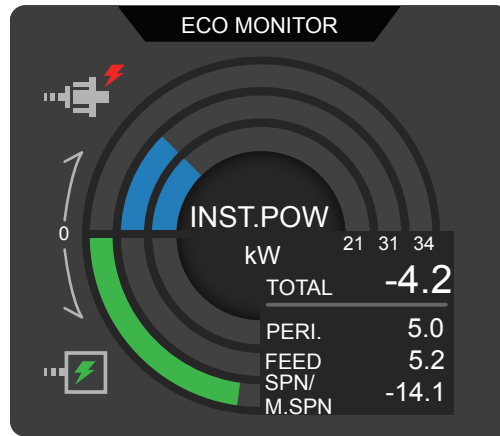
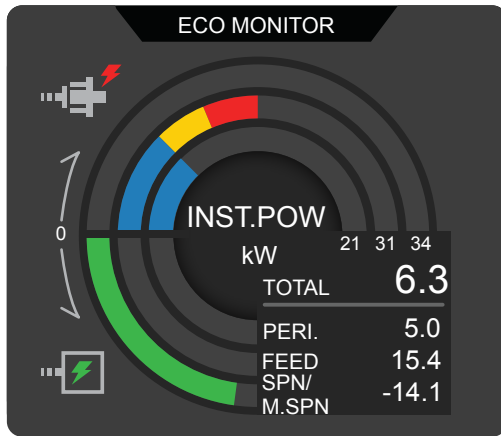
4. ALWAYS LOOK FOR NEW WAYS TO REWARD EXCELLENT PERFORMANCE:

No doubt, this can be tough; but rewards are only limited by the imagination. Not everyone sees value in the same reward, so take that into consideration here.

5. WORK-LIFE BALANCE HAS BECOME A TOP PRIORITY:

Employees love flexibility when scheduling time off. In fact, many younger workers say work flexibility is as important, or even more so, than higher pay. And while this can prove to be difficult for some companies – especially if understaffed– time off will decrease absenteeism and boosts employee morale.





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OKUMA

There's an old Native American story that tells of the buffalo native to North America. According to the story, when a storm would come, buffalo would run towards the bad weather and face it head on. It's as if they understood it's better to withstand the darkness for a short period of time and come out on the other side than to run away and be followed by it for longer. After hearing this story a few years back, CultureShoc CEO Ron Kaminski brought it back to his company where it became their mantra and core value: Be a Buffalo.

CultureShoc is a culture-building resource; through meeting facilitation, strategic planning and training sessions, they help companies and leaders develop cultures that attract top talent and retain A-players. NTMA members were first exposed to CultureShoc at the 2013 Fall Conference in Boston, where Kaminski led a breakout session focused on intentionally building high-performing teams and cultures. NTMA members were so impressed, CultureShoc came back to speak at the 2015 Emerging Leaders Conference in Cleveland and Fall Conference in St. Louis, where they led breakout sessions under the business development track. Now as an NTMA National Associate, Kaminski's team is ready to increase the speaking engagements and workshops for NTMA membership in 2106.

So, what does CultureShoc offer? Director of Client Services, Pete Honsberger,

breaks it down into three categories:

1. PLAN AND FACILITATE TEAM-BUILDING EXPERIENCES:

"That could be a half-day or full-day event, or a multi-day conference," Honsberger says. "We take teams and do fun outings for them, but we get competitive and do service projects, too. It's all based around the fact that the strongest teams are the ones that are accountable to each other, including leadership, but they also know each other beyond the professional level on a human, emotional level. Our team-building outings do just that; they give the teams a chance to learn more about each other, to have a good time, but also to translate what they learn at those experiences into their day-to-day."

"THE STRONGEST TEAMS ARE THE ONES THAT ARE ACCOUNTABLE TO EACH OTHER, INCLUDING LEADERSHIP"

2. THE CULTURESHOC PROJECT:

"Essentially, we build a CultureShoc calendar for each client on a quarterly basis and execute on the calendar. It's an on-going engagement where we have a plan to help a company create the highest performing culture that they can have," Honsberger says. "When we're talking about high performing cultures, these are companies that become more attractive in their industries because they're delivering what they're promising to clients and customers on time; they're accountable to each other and they get

things done, but they are also attracting the talent that is coming out of college, high-school and trade schools, and top talent from other organizations in their industry."

3. STRATEGIC PLANNING AND EXECUTION USING THE EOS PROCESS:

"A lot of companies that want to grow do strategic planning once a year, come up with the great vision and great goals, then put the binder on a shelf where it collects dust for the next ten months before they finally revisit that plan and start all over again," Honsberger says. "Our model is different: we have certified Entrepreneurial Operating System – or EOS – implementers in-house. It's a single strategic planning session day per-quarter. We get companies living in a 90-day world, where not only are they creating the vision that is right for their organization starting from the leadership level, but they are executing on that vision. We create clear accountability for what everyone is responsible for, who people need to turn to when they have questions or ideas and then how to actually measure if things are getting done or not."

Additionally, CultureShoc has a fourth service offering currently in the works, "My EKC," or Employee Knowledge Center. "My EKC is a software service that allows companies to document their core processes and assign these processes an owner," Honsberger says. "When you want to train somebody up, you attach their name to a process and

give them access to the information. It's going to help leaders get these processes and systems out of their head and down into one spot, making their lives easier and helping their businesses grow faster."

What makes CultureShoc a natural fit for NTMA members is their dedication to creating effective leaders and employees. "We've seen that a lot of NTMA companies are family businesses, where it's not uncommon for peers to be elevated to leadership positions," Honsberger says. "These new leaders then have to learn to transition from being buddies with a person on the same level to holding them accountable. We teach leaders how to do that while maintaining relationships and getting work done."

"WE'VE SEEN THAT A LOT OF NTMA COMPANIES ARE FAMILY BUSINESSES, WHERE IT'S NOT UNCOMMON FOR PEERS TO BE ELEVATED TO LEADERSHIP POSITIONS"

CultureShoc offers a special NTMA discount for members interested in leader and culture development. With their help, you and your team can learn how to attack opportunities head-on and rise to challenges. At the end of the day for CultureShoc and their clients, it's about taking ownership and being empowered to act. It's about being a buffalo.



SIX MANUFACTURERS THAT DO APPRENTICESHIPS RIGHT

ORIGINALLY PRINTED IN INDUSTRY WEEK, NOVEMBER, 2015

The NTMA would like to congratulate Oberg Industries and Penn United of the Pittsburgh NTMA Chapter for being recognized in Industry Week's list of the Top 6 Manufactures that do Apprenticeships Right!

If the word "apprenticeship" has a nostalgic ring to it, maybe it's because high school vocational programs aren't what they used to be, and in-house training programs are a casualty of consolidation and cost-cutting. But at these manufacturers, apprenticeships are an important part of the culture. They see the value of investing substantial money and time teaching specialized skills to smart, hard-working people who are eager to learn, and eager to make a good living.

BOSCH REXROTH

This German-owned manufacturer of drive and control technologies, started in 1886 by an engineer and an apprentice, partners with local community colleges near its operations in North and South Carolina, training students in machining and mechatronics. Apprentices learn on the job as they take classes. The Fountain Inn, S.C., program is based on a German model of apprenticeship, but it was customized from there—more complex projects are packed into a bit shorter time period. New graduates train the next class of apprentices on the machines, so they learn to be teachers as well.

DAETWYLER GROUP

This Swiss-based supplier of precision machinery has been running an apprenticeship program in the United States since 1995, providing training in mechatronics, tool and die and CNC machining. The company has partnered with Central Piedmont Community College in Charlotte, N.C., on its training program, which has been in place since 1995. In 2014, Daetwyler received the TELL Award from the Swiss Embassy in Washington for successfully implementing a sustainable workforce development program.

OBERG INDUSTRIES

Donald Oberg, the founder of this diversified manufacturer specializing in precision metal components and tooling, started



an employee training program soon after his company began in 1948. This evolved into an apprenticeship program that was formally registered in 1971. Over the years, the Pennsylvania-based company has trained nearly 1,000 employees in the metalworking trades and emerging technologies. Oberg Industries rejoined the NTMA in 2013.

PENN UNITED TECHNOLOGIES

This mid-size precision metal manufacturer in Western Pennsylvania took its training in-house in 1997, establishing the Learning Institute for the Growth of High Technology (LIGHT). The 17,000 square foot training center on Penn United's main campus is outfitted with three classrooms and four labs with the latest manufacturing equipment. Penn has four state-approved apprenticeship programs: toolmaker (5 years), precision machinist (4 years), press technician (3 years), and quality assurance technician (3 years). In addition, the company offers short-term training programs and college tuition reimbursement in areas including accounting, business management and engineering. Penn United Technologies has been an NTMA member since 1975.

SIEMENS

Siemens' Charlotte, NC, apprenticeship program sponsors about ten high school students each summer for six weeks of training. Six or seven typically go on to the full

four-year apprenticeship program, which includes 6,400 hours of on-the-job training and 1,600 hours of coursework at nearby Central Piedmont Community College. The apprenticeship is registered through the North Carolina Department of Commerce, so apprentices earn credentials along with their training.


For the first two years in the program, apprentices are contract workers; they're each assigned a mentor and go through onboarding, including safety training. After that, they apprentice as full-time employees as they also complete coursework for a degree in either computer integrated machines or mechatronics.

VOLKSWAGEN

Apprentices at Volkswagen's Chattanooga, TN, facility can study either automation mechatronics (supporting the factory) or car mechatronics (supporting vehicle development), both of which are three year programs. The training, based on the German apprenticeship model, is part of the Volkswagen Academy – a partnership with two community colleges that combines paid on-the-job training with vocational classroom education in mechanical systems, electricity, electronics, machining, welding and automated systems.



SAVE THE DATE



EMPLOYEE MANAGEMENT & BENEFITS WORKSHOP

NTMA EMPLOYEE MANAGEMENT & BENEFITS WORKSHOP

INDIANAPOLIS
WEDNESDAY MARCH 23, 2016
8:00am - 4:30pm

Continental Breakfast and Lunch included

Registration Rates:

Early Bird Member	\$300
Deadline 3/2/16	
Regular Member	\$375
Non-Member	\$500

New Lower Rates in 2016!

Tuesday March 22 at 6:00pm - Networking Reception

For registration information or questions contact: Brittany Belko • bbelko@ntma.org • 216-264-2848



GF MACHINING SOLUTIONS INTRODUCES NEW HIGH-PERFORMANCE CUT E SERIES OF WIRE EDM

GF Machining Solutions has introduced the CUT E 350, the first machine in its new CUT E Series of high performance and high productivity wire EDMs. The CUT E Series incorporates a broad range of technologies to help manufacturers increase their flexibility and accelerate their time to market.

The CUT E Series incorporates a new, large-touchscreen human-machine interface (HMI) that is intuitive in operation and includes onboard Intelligent Collision Protection, built-in machining strategies and flexible job management. Information about geometries, machining processes and command programs is processed in a single file, allowing jobs to be transferred among different machines in the CUT E Series, with the machines automatically managing all needed modifications. Additionally, more than ten automated measurement cycles are available to assist with workpiece preparation, and the onboard AC CAM Easy allows an operator to prepare an ISO file and post-process it into a job during machining.

The CUT E Series features the modern Intelligent Power Generator (IPG) to further improve cutting speed, preci-

sion and surface quality. The machine can use dedicated wire for decreased part cost and increased throughput, and the POWER-EXPERT module automatically determines the optimal power to send through the wire, which is especially beneficial in stepped parts. The Corner Strategy module automatically adjusts parameters during changes in direction to produce sharp angles and small radii. These features combine to reduce cutting times by up to 18 percent as compared to standard machines.

Machine ergonomics and design have also been improved with the CUT E Series. The machines feature a compact, space-saving design that incorporates high rigidity to enable accurate cutting of large and heavy parts. A drop door provides easy, convenient access to the table and side-by-side filters are easily accessible to simplify maintenance.

Integrated glass scales preserve long-term, repeatable accuracy, require no recalibration and eliminate errors found in traditional screw systems due to backlash and wear. The CUT E 350 allows use of an optional large, 25 kg spool to facilitate greater levels of automation and unmanned machin-

ing. It also features a reliable wire circuit system for perfect unrolling that does not disrupt the EDM process. For more information, visit www.gfms.com.



NTMF: "IT IS NOT WHAT YOU TAKE BUT WHAT YOU LEAVE BEHIND THAT DEFINES GREATNESS."

Mike Kartsonis of Dynamic Fabrication, Santa Ana, CA, spoke to NTMA members at the Fall Conference on behalf of the National Tooling and Machining Foundation (NTMF). He reminded members of the special bond they have and the good works – NRL, NTMA-U and chapter initiatives, to mention a few – that have been supported through NTMF funding. In calling for financial support for the Foundation, he emphasized how supporting NTMF "can perpetuate manufacturing for future generations."

NTMA members Dan Bagley of B & B Management Labs in Pittsburgh, PA, and Donald Lloyd of the Lloyd Company in Houston, TX, responded to Mike's call with a donation. If you would like to add your name to the list of NTMF donors, contact Dave Sansone (dsansone@ntma.org) for a donation form. As Mike concluded in his short presentation, "Remember, it is not what you take but what you leave behind that defines greatness."



SAVE THE DATE

**SALES & MARKETING WORKSHOP**
DALLAS

NTMA SALES & MARKETING WORKSHOP
WEDNESDAY FEBRUARY 10, 2016
DALLAS, TX

Connect with NTMA Sales and Marketing professionals and industry experts to learn how to boost your business and increase leads. You won't want to miss this opportunity!

8:00am - 4:30pm
Continental Breakfast and Lunch included
Tuesday February 9 - Networking Reception

Registration Rates:
Early Bird Member \$450
Deadline 1/20/16
Regular Member \$525
Non-Member \$650

New Lower Rates in 2016!

For registration information or questions contact: Kristen Hrusch • khrusch@ntma.org • 216-264-2845

ST. LOUIS CHAPTER DONATES TO ST. PATRICK CENTER



From left to right: Tom Rhoads, Nick Berilla, Mark Bockerstett, Herb Homeyer, Bill Bachman, Syl Fontana, Dave Smith and Pat Walsh

The St. Louis Chapter enjoyed an evening at Kemoll's Italian Restaurant for their annual Holiday Party December 13th. Among the 55 guests were Chapter President Mark Bockerstett and seven past Chapter Presidents. Before dinner, guest speaker Carol Beckel spoke of the St. Patrick Center programs, which works to build permanent, positive change for their St. Louis clients. Dinner guests raised nearly \$2,000 in donations that will help St. Patrick Center continue its work that is so vital to many who face challenging times and circumstances.



UNDERSTANDING THE UPS AND FEDEX SMALL PACKAGE RATE INCREASES



Every year small package carriers FedEx and UPS evaluate their shipping rates and make adjustments that can have a substantial effect on you and your business. The UPS rate increases went into effective December 28, 2015, while the new FedEx rates took effect on January 4, 2016. As always, how much more expensive your particular small package shipments will be in the new year largely depends on many factors, including shipment volumes, sizes, weights, and modes.

HERE ARE SOME QUICK FACTS:

- FedEx Express package rates are increasing an **average of 4.9%** for U.S., U.S. export, and U.S. import services.
- UPS Air and International package rates are increasing an **average of 5.2%**.
- FedEx Ground and FedEx Home Delivery rates are increasing an **average of 4.9%**.
- UPS Ground rates are increasing an **average of 4.9%**.

The important takeaway when thinking about your shipping expenses in 2016 is that the announced average increases paint an inaccurate picture of the true impact these new rates could have on your business. The small package shipping experts

at PartnerShip® have dug into the details and analyzed the new rate tables to assess the true impact to shippers and help you make sense of these changes. Learn more about how the 2016 rate increases will affect your shipping costs by downloading the free white paper at PartnerShip.com/RateIncrease.

IN MEMORIAM

S. GEORGE BELEZOS

S. George Belezos, 95, of Canton, MA, passed away November 21st. Always innovative, Belezos was responsible for several National Patents in his industry. In his 29 years working for Boston Gear, he became the youngest Chief Engineer ever, and eventually the Director of Research and Development. In 1966, Belezos started his own company, Bendon Gear, now in Rockland, MA. Bendon Gear has been a BTMA/NTMA member since 1977.

JOHN EUGENE WEYRETER

John Eugene Weyreter, 84, of Indianapolis, IN, passed away December 8th. John was an NTMA Chairman in 1991, past President and CEO of Major Tool and Machine for 42 years and active in The JUNTO of Indianapolis organization. John's educational background included Purdue University as well as the completed of The Harvard SCMP Program.

This tip is brought to you by PartnerShip, the company that manages the NTMA Shipping Program. For more information or to enroll, visit PartnerShip.com/54ntma, email sales@PartnerShip.com, or call 800-599-2902.



SAVE THE DATE

NTMA FINANCIAL MANAGERS ROUNDTABLE

ATLANTA

WEDNESDAY FEBRUARY 17, 2016

Sponsored by

8:00am - 4:30pm

Continental Breakfast and Lunch included

Tuesday February 16 at 6:00pm - Networking Reception

For registration information or questions contact: Brittany Belko • bbelko@ntma.org • 216-264-2848

FINANCIAL MANAGERS ROUNDTABLE

New Lower Rates
in 2016!

Registration Rates:

Early Bird Member Deadline 1/27/16	\$300
Regular Member	\$375
Non-Member	\$500



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||| FOR THE ONES WHO GET IT DONE

FIVE THINGS CEOS SHOULD KNOW ABOUT VETERAN HIRING

The bad news is that many smaller companies are very unsuccessful in hiring veterans. The good news is that the problems causing failure can be fixed with modest effort and virtually no expense.

YES, CEO LEADERSHIP MAKES A DIFFERENCE IN VETERAN HIRING RESULTS

If your leadership team hasn't made it clear that hiring veterans is a high priority, take this step now. Early results in a national employer survey we are conducting prove the point. Respondent companies where the leadership team has stated that veteran hiring is a high priority report they also have fewer problems and get more effective help from veterans groups, nonprofits and government agencies.

The leadership team's commitment



to success motivates the recruiting team to take the goal more seriously and focus on both on how to get the job done and who in the community to work with. When the recruiting team doesn't see this commitment, they are more prone to get discouraged in the search and less likely to follow through with outside resources. This makes sense: If the recruiters feel that the leadership team "doesn't really care one way or another", they will be less committed themselves.

TARGETING APPLICANTS BASED ON APTITUDE IS ESSENTIAL

Too many companies waste everyone's time by interviewing veterans whose skills and aptitudes have nothing to do with their job qualifications. If your job opening requires experience with computerized machines, then it pays to seek

out applicants who have performed similar roles in the military and who have a knack for learning and using sophisticated machines. Applicants from the Army's legal division or the Navy's public affairs division – just because they are "veteran" -- are probably not going to be good candidates for this job.

RELYING JUST ON JOB POSTINGS IS NOT EFFECTIVE

About two-thirds of the small employer respondents in our survey tell us that their job postings are not attracting the applicants they need. Our experience in working with employers is that this is for two reasons: 1) most job postings are written poorly and don't "sell" the company or the industry; and, 2) most veterans don't spend a lot of time searching through potentially thousands

of job postings on scores of websites.

Posting jobs is easy and inexpensive, so you'll want to keep doing it. However, you'll want to make sure that your postings are placed with military-related job boards and do an excellent job of describing the job as well as the many reasons why a

veteran would find your company a great place to make a career. Why not pull out the last 10 job postings your company placed and give them a look, then ask yourself if you were a veteran, would they attract your attention?

YOU ARE PROBABLY NOT TELLING YOUR COMPANY AND INDUSTRY STORY WELL TO VETERANS

Most veterans, military employment counselors and state workforce agency placement staff know little or nothing about the tooling and machining industry. This dearth of knowledge means that few veterans will find their way on their own to your company, and that the key counselors in the military and workforce agencies don't know enough to advocate to veterans that they apply to your company.

There is a big opportunity here to tell your story more effectively. Since you're

competing with other advanced manufacturing employers, this means explaining in meaningful ways why a career in your industry and company is a good decision. You can easily put together a few pages of relevant selling points for veterans and share this with your local veterans groups, military bases, community colleges and others. Give them the information they need to help interest veterans in your company. If you would like a list of points to cover in a recruiting booklet for veterans for your company, send me an email.

PARTNERING WITH NONPROFITS IS A TWO-WAY STREET

We know from many of the employers we work with that they depend heavily on getting veteran candidates from nonprofit military outplacement organizations. However, we also know from working with nonprofits that they are increasingly frustrated in working with company recruiters who take these nonprofits for granted and don't follow-through. Many employers' recruiters seem to feel that these nonprofits "owe" them help and that the recruiters "do them a favor" when they consider candidates presented by the nonprofits.

The truth is that when nonprofits encounter recruiters who don't return phone calls, don't follow-through in reviewing candidates in a timely way, or change the job specs at the last minute, not surprisingly, the nonprofits ratchet down their level of support for them. The nonprofits are out in the world competing for scarce grant money to fund their efforts while providing a free or low-cost service to employers to bring them good candidates. They don't have time to give first-class help to recruiters who are hard to work with. The more respectfully your recruiters treat the nonprofits, the more effectively you'll be helped by these groups. Get to know them. Take them to lunch. Let them know you value their help. Most of all, return their phone calls in a timely way when they call.

HIRING VETERANS IS NOT AS HARD AS SOME PEOPLE MAKE IT OUT TO BE

Hiring veterans is a lot easier when the CEO is committed to doing so and when the recruiting team goes about it using the techniques that have been proven effective

SEE "AJAH" NEXT PAGE

MANUFACTURING A BETTER BOTTOM LINE WITH THE R&D TAX CREDIT

Black Line Group

With tax season underway, now is the time to see if your company can substantially reduce its tax liability and improve cash-flow by utilizing the R&D Tax Credit.

The definition of research and development (R&D) is much broader than people realize; manufacturers of all kinds, including “job shops/contract manufacturers” are doing R&D.

One NTMA member company benefiting from the R&D tax credit is Bogue Machine Company, a precision machining facility headquartered in Albuquerque, New Mexico. This company specializes in precision milling and turning for a vast number of conventional and exotic materials, and serves the aerospace and defense industries in prototype and CNC production machining. After attending a New Mexico Chapter meeting this past January and hearing Scott Schmidt from NTMA National Associate Member, Black Line Group, speak about the R&D Tax Credit, Mark Bogue and Andrew Hisey, owners of Bogue Machine, were intrigued enough to explore the potential opportunity further before ultimately deciding to move forward.

“My team and I discussed how many projects that we have worked on over the past 30 plus years that should and would have qualified if we had been exposed to the benefits of the R&D tax credit,” says Bogue. “With the precision machining industry working to such tight margins on quoted products, we felt that any tax savings would equate to a better profit margin for our company.”

One qualified project from Bogue Machine Company was the development of a process to build a highly complex part for an Aerospace customer. The company faced technical uncertainties during the project due to the exotic material requirements, one of which was the uncertainty of how to prevent tooling derogation during the long manufacturing process. They experimented with manufacturing the part using traditional methods, and also tried different variations of speeds and feeds. Bogue also developed better work holding fixtures that increased the rigidity of the part that was being manufactured. Because of this R&D process, Bogue was able to recover lost engineering time and improve the profit margin for this project. All the

man hours used in the qualified project, as well as the development of the above process, were claimed against the R&D Tax Credit.

“As a business owner, I am always looking for ways to improve my bottom line,” says Bogue. “In the beginning, I was unsure how much time and effort would be required to achieve any benefits from the R&D tax credit. With the help of the Black Line Group, we worked hand in hand through the process. Without their help, I would have not tackled this process and would have cost my company many tens of thousands of dollars in potential tax savings this year and each year into the future. Black Line Group was very professional and helpful though out the entire process.”

To learn more about the R&D Tax Credit and whether your company has a meaningful opportunity to explore, contact Scott Schmidt at Black Line Group at (763) 229-8122 or via email at scott@blacklinegrp.com, or visit www.blacklinegrp.com.



“AJAH” CONTINUED

by a lot of employers. You can download a free summary of these techniques here: <http://www.CenterForAmerica.org/bpg.html>

If you have not yet participated in the Center for America Employer Survey, take a few minutes now to tell us your experiences. This short survey, which can be completed anonymously, can be found at https://www.surveymonkey.com/r/36PW85F_CFA. We'll provide NTMA with a full report of our findings and share more insights in future columns.

Please be sure to input “NTMA” in the first question where it asks for the association code.

Steve Nowlan is president of Center for America. For free help with your veteran recruiting, contact Steve at 201-513-0379 or SNowlan@CenterForAmerica.org.



MITTLER BROS. TOOLS HELP TO CREATE A LASTING WEDDING MEMORY

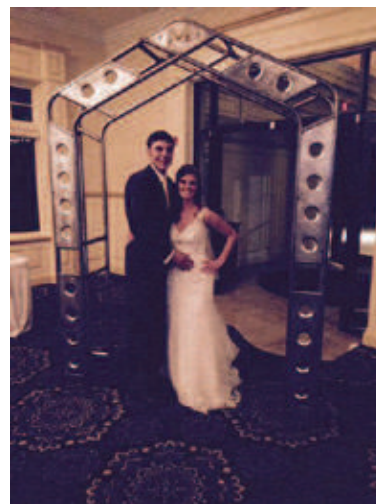
Brandon and Hilary Maciejewski of north central Illinois were married Saturday October 10, 2015 under a special fabricated arch.

Brandon, a long time Mittler Brothers customer and dirt modified racer, used his Mittler Brothers Tubing Bender and Punch/Flare tools to fabricate the special arch. He started the project on Thursday before the wedding and finished it early Saturday morning, just in time for the ceremony. Hilary says the arch will stay with them forever.

Mittler Brothers is happy to of played a small part in their special day. Congratulations to the Maciejewskis!



Brandon and Hilary Maciejewski and their arch



NATIONAL TOOLING & MACHINING ASSOCIATION

1357 Rockside Rd.

Cleveland, OH 44134



MANUFACTURING AMERICA'S FUTURE

THE RECORD

A graphic designed to look like a blue folder with two silver binder rings at the top. Inside the folder, there is a white card. The card features a grey tab on the left with the year "2016" in red. At the top center of the card, the words "SAVE THE DATE" are written in large, white, bold, sans-serif capital letters. Below this, the word "California" is written in a red, cursive script. In the center of the card is a large, blue, 3D-style date range: "FEB 28 - MAR 1". Behind this date is a faint, circular watermark logo for the "Hard Rock HOTEL". At the bottom of the card, the words "PALM SPRINGS" are written in a light grey, sans-serif font. In the top right corner of the white card, there is a small NTMA logo with the text "CHAPTER LEADERSHIP SUMMIT" below it. At the very bottom of the blue folder, the words "CHAPTER LEADERSHIP SUMMIT" are written in large, white, bold, sans-serif capital letters.