

1000 EMPLOYERS NOW PARTICIPATING IN CAMPAIGN TO ACCELERATE GUARD AND VETERAN HIRING

Many small to midsize employers who want to hire Guard members and vets don't have the resources to identify such candidates quickly or efficiently when they have jobs to fill.—p10

THE NTMA TRAINING CENTERS 'ROBOT CONFLICT 2014' WAS A HUGE SUCCESS!

On Saturday, February 8th, 2014 the NTMA Training Centers hosted the first Robotics competition of the new year. —p18

NTMA WEBSITE GETS A FACELIFT! CHECK OUT THE NEW FORMAT!

As the national face of the U.S. precision custom manufacturing industry, NTMA works hard every day to tell the story of the growth of manufacturing. —p24

DAVLAN, A MANUFACTURING SUCCESS STORY.

Davlan celebrated its 50th year in business this past September 29th, 2013 by throwing an amazing 50th anniversary celebration. —p36



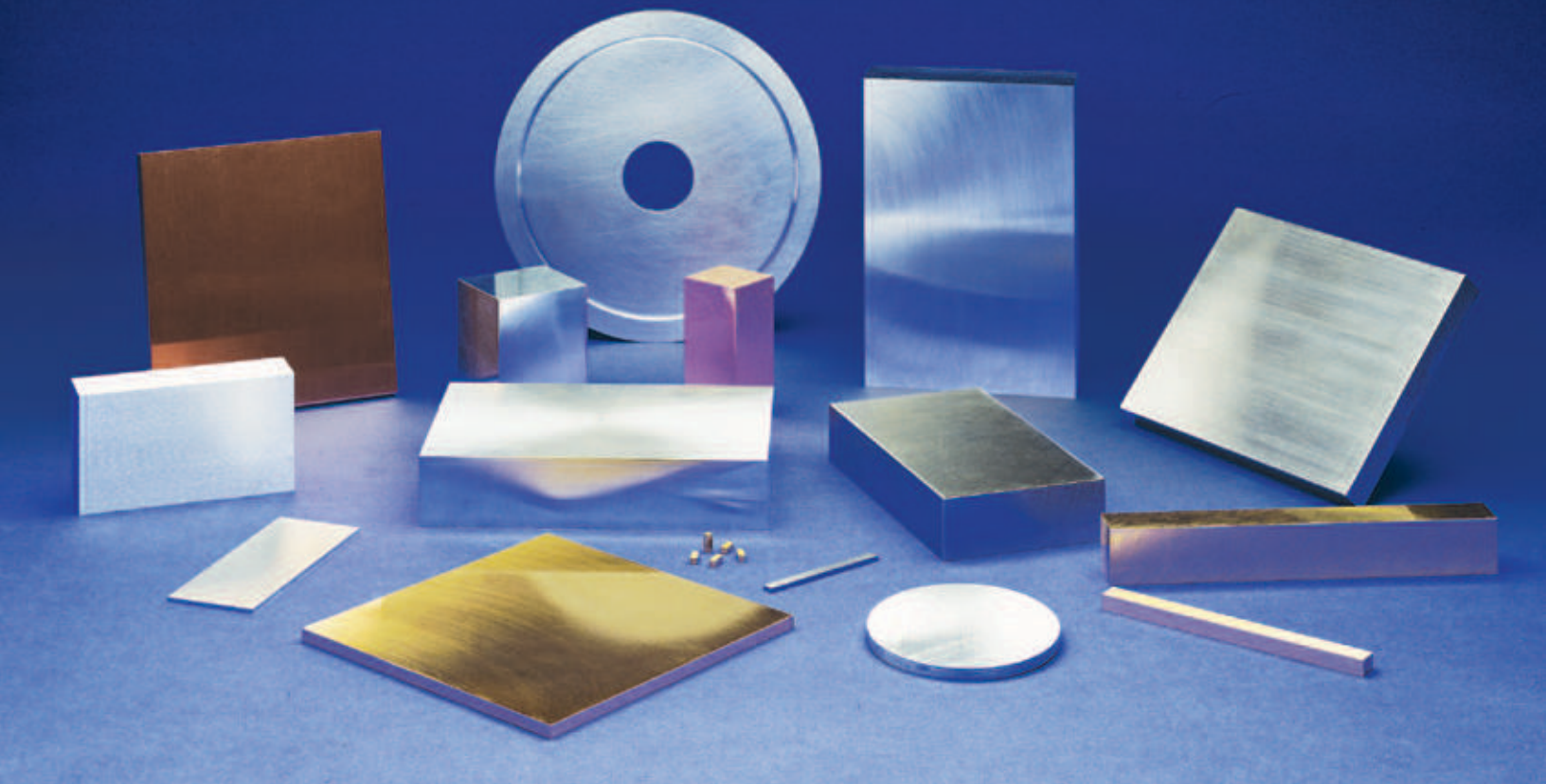
ACCUROUNDS CEO PARTICIPATES IN WHITE HOUSE EVENTS ON RETURNING LONG- TERM UNEMPLOYED TO WORK

MICHAEL TAMASI, CEO OF AccuRounds, WAS INVITED TO THE WHITE HOUSE ON FRIDAY, JANUARY 31 TO TAKE PART IN AN EVENT CONVENED BY PRESIDENT OBAMA TO DISCUSS STRATEGIES FOR HELPING OUR NATION'S NEARLY 4 MILLION LONG-TERM UNEMPLOYED GET BACK INTO THE LABOR MARKET. —p8



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MANUFACTURING AMERICA'S FUTURE



CHAIRMAN'S CORNER

ROBERT MOSEY / NTMA CHAIRMAN OF THE BOARD

One more report! You thought you were done with me didn't you?

By now you are painfully aware that NTMA's theme for 2013 was "Stewardship of the Manufacturing Industry". Our four main focuses are: Membership Value, Industry Advocacy, Workforce Development, and Governance. As I traveled this year and visited many of our chapters, I have been reporting to you all of the great stewardship activities that are occurring across the United States. And there have been many.

In this final report I will be reporting on my visit to Tampa for the ET, Team Leaders' and Chapter Leadership meetings as well as my visit to the North Texas and Arizona Chapters and the soon to be new chapter in Albuquerque, NM. And maybe a surprise "special" visit at the end.

After a quiet month of December, we hit January at a full run. First stop was Tampa, Florida where we had a full week of activities. We started the week with 2 days of Executive Team meetings. The first day was all business, the second focused on the future. We reviewed our progress of the 2013/2014 Strategic Plan. We also started working on 2015 by reviewing our strengths, weaknesses, opportunities, and threats as well as a review of NTMA's Vision and Mission statements. It has been some time since we have had the luxury of looking that far ahead. I believe that we have some wonderful times in the future.

On our first night in town, the Executive Team and their wives were hosted by our own Roy Sweatman and his beautiful wife Cathy in their wonderful home. As you might expect, we had some great wine and delicious food. We also had some... entertainment. I'll let the pictures do the talking.

On day 3, we met with all of our Team Leaders and their Staff Liaisons for a review

of team structures and operations. Since most of our team leaders have been through this process last year, we had the time to get valuable input from those present on the Vision/Mission and the 2015 Strategic Plan. All in all, a very productive day.

On Day 4 and 5, chapter leadership from approximately 20 NTMA Chapters assembled to participate in the 2nd Chapter Leadership Summit. If you recall from last year, this event provides a venue where we strengthen the communication between National and its chapters, as well as the opportunity for those chapters present to share best practices between themselves to ultimately improve all chapters.

Again, this venue allowed the Executive Team to share the Strategic plan and get more input from yet a different perspective on the future of the NTMA. We ended the second day on what I thought was a high note with an open discussion between the Executive Team and Chapter Leadership about all kinds of different subjects, both good and bad. I do hope all of those present received as much from that meeting as I did.

Back home for a couple of days and then off to visit the North Texas Chapter. Chapter President, Todd Ellard met me at the airport and took me to the hotel where I was able to catch up on some email before being picked up by Todd for dinner. We met up with Chapter Treasurer, Barron Smith. We had some great discussion and set the venue for the following day's activities.

Bright and early the next morning Todd once again picked me up and took the short ride to visit the chapter's largest member, Commerce Grinding Company. Chapter Trustee, Joe O'Dell, joined us in the lobby where we were met by company President, Michael Johnson. Michael gave us a complete

tour and shared with us all of their very specific grinding services. I've seen grind shops



Bob Mosey, Michael Johnson, Todd Ellard and Joe O'Dell

before but nothing like this. They specialize in very complex components for the gas turbine industry as well as others. They also have the absolute largest Blanchard Grinder that I have ever seen. This thing is a monster and can do over 100" in diameter! Unbelievable.

From the largest to the smallest. The next stop was to visit aforementioned Barron Smith, President of R.W. Smith Company. Barron and his one employee run a very clean centerless grinding shop that also has the ca-



Bob Mosey, Barron Smith, Todd Ellard

CONTINUED ON — P5

THE RECORD

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pability to design and grind special, custom cutting tools.

From Barron's place, we all went to visit Kenney Industries where they offer a diverse set of services from reverse engineering, design, prototyping and machining. We met 3rd generation, Michael Kenney and he gave us the history of Kenney Industries from grandfather to father and now Michael. As well as having a great company Michael's father is a great example of an Industry Steward. Seeing the need for machinists both in his company and other companies in the area, he has started his own school, Kenney Institute. Karla Chandler, Program Manager, gave us a tour of their school. This is VERY rare that a company owner will take it upon themselves to give back to the industry at such a high



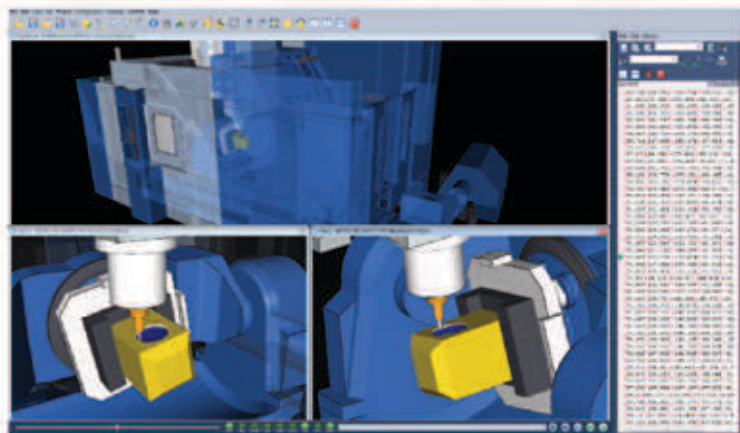
Joe O'Dell, Todd Ellard, Karla Chandler, Bob Mosey, Michael Kenney

level. Great Workforce Development!

Next stop was at Applegate EDM, Inc. where we met past chapter president and

CONTINUED ON — P6

"Do we have VERICUT?"



"I started in my new position last Friday. The first thing I asked was: Do we have VERICUT?"

Jacques Ouellet, CEO, NSE-Automatech



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company CEO, Wayne Applegate. Wayne has a beautiful, fully equipped EDM shop where they do a lot of work for the gas turbine industry. Using his creative side, he has developed specific dedicated processes that set Applegate apart from other shops. Probably the coolest part of this tour was seeing the partnership that has developed between Applegate and Todd Ellard's company, Manda Machine. A family of parts that Applegate manufactures require some serious machining, a capability that Applegate does not have. Several years ago, the two companies developed a partnership where Manda actually has machining centers inside Applegates building. One of the Ellard brothers, Richard, runs this division of Manda and between the two companies, they are able to give superior service to the end customer. This is the kind of partnership that can develop between NTMA members. Outstanding networking!

From Applegate, we drove to Manda Machine where Todd and his other brother, Andy, run a very cool machine shop that services the oil and gas industries as well as



Todd Ellard, Bob Mosey, Wayne Applegate

others. Todd gave me the grand tour and shared with me how they are developing their employees into ever better machinists.

As I stated earlier, Todd is Chapter President and has been so for many years. This guy is a shining example of a great Steward of the Manufacturing Industry. He has given back so much in time, talent, and treasure and it has paid dividends in rebuilding the North Texas Chapter. They are as a group, developing the next generation of chapter leadership and we expect great things from this chapter in coming years.

Manda Machine hosted the evening's chapter meeting where over 60 members attended the festivities. It was a great meeting and I was able to meet many of the chapter's members and associate members. Congratulations to the entire chapter board on being so successful.

Home again... for a couple of days,



Todd Ellard, Bob Mosey, Andy Ellard

then off again to visit our newest chapter in Albuquerque New Mexico. I met up with NTMA Director of Membership, Jeff Walmsley and NTMA President, Dave Tilstone, at the hotel where we hosted dinner for the newly formed chapter board of directors. What a great, enthusiastic group of business owners. These are the movers and shakers of the manufacturing industry in and around Albuquerque. By the time you read this article, they will have officially become the newest chapter of the NTMA. Please look for their members at the next conference and welcome them to the fold.

Our trip to Albuquerque was very quick and I was only able to visit one shop. We visited Robert Sanchez, owner of Advanced Machining, Sheetmetal & Design. While a very small company, they offer a very diverse portfolio of services that include sheetmetal and machining as well as value added assembly of some very complex components. They are not NTMA members, yet, but we hope they will be soon! (Sorry. No pictures on this trip.)

Dave Tilstone and I left mid-day to visit the AMTA Chapter in Phoenix. We arrived in time to meet up with incoming Chapter President, David Lair and Dante Fierros, Chapter President and soon to be Chapter Trustee for dinner. We discussed all of the activities that the chapter was working on including the planning for their upcoming regional conference, "Boots & Business" scheduled for August 1-3, 2014 in Dallas, Texas. They work together with several of the southwest chapters including North Texas, San Diego, Rocky Mountain and Northern Utah to bring a localized learning and networking opportunity to NTMA Members in this region. Great Membership Value!

The next morning we met ATMA board member, Mark Weathers and Past Chapter President Mark Lashinske for breakfast. There we discussed the apprenticeship program and the local NRL program. After breakfast, Dave and I followed Mark

Lashinske to see the latest and greatest at Modern Industries.

From Modern, Dave and I went to visit incoming Vice President, Joe Koenig at his company, Exactitude. Joe gave us a tour of his company and a bit of company history. He is fairly new to the business but is growing very fast. I expect great thing from Joe in the future.

We had most of the afternoon off and



Joe Koenig and Bob Mosey

spent it catching up on emails and other NTMA business. Work, work, work! By 5:00pm, it was time to head to the Chapter meeting. There we were met at the door by the multitudes of members, both regular and associate. What a great turnout. I thought it was all for me but was quickly corrected; it was their chapter's installation of officers and they always get a great turnout for this event. Oh the humility.

If you didn't get this out of my previous reporting on the ATMA, you must know that they are extremely focused on Workforce Development in every way. They have connected with many of the local educators and agencies to insure that they are teaching the correct curriculum. They have partnered with Jeromy Bout of Edge Factor and a local TV channel to develop some fantastic videos, all in an effort to promote the importance of manufacturing and the potential for high paying jobs. Great work! Pay attention folks. They are making a difference.

So. This concludes my travel as NTMA Chairman. What a ride. Oh wait. I'm not quite finished. I think I have time for one more shop visit. This guy has been bugging me all year. "When are you going to visit my shop so I can have my picture in the Record"? You all know him as Mike Kartsonis of Dynamic Fab in Santa Ana, California. Right here in my own backyard. Think of the money I saved the NTMA on travel!

For those who don't know Mike, he has a great company the does fabricating, welding, and machining. He specializes in quick turn,

difficult parts with small quantities. All the stuff I hate. Oh. Did I mention that he is also one of the reasons that I am so involved in the NTMA? Yep. You can blame it all on him.

Seriously, for those that don't know Mike, you won't find a more giving person in our association. From working in the LA Chapter, going through the chairs, Trustee, on the NTMA Nominating Team and the NTMF Board. He mentors other younger business owners, sharing his vast business knowledge. Outwardly he is a jovial, joke telling fun guy to be around. Internally, he is a warmhearted, giving person. I love this guy (In a manly sort of way).

So now, for the last time, keep up the good work in your own chapters and communities! Be the best Steward of the Manufacturing Industry that you can be. Farewell!

Peace,

ROBERT MOSEY / NTMA **PAST** CHAIRMAN

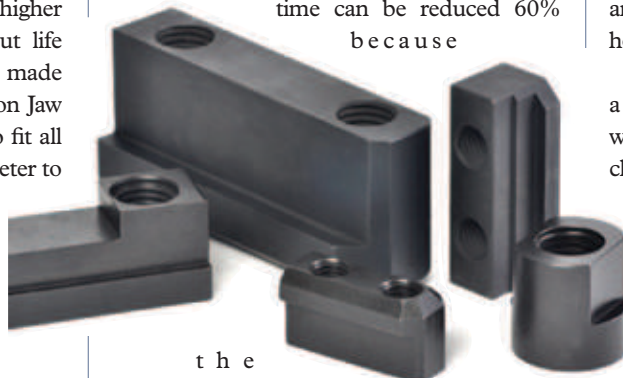



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AccuRounds CEO Participates in White House Events on Returning Long-Term Unemployed to Work



Michael Tamasi, CEO of AccuRounds, was invited to the White House on Friday, January 31 to take part in an event convened by President Obama to discuss strategies for helping our nation's nearly 4 million long-term unemployed get back into the labor market.

Sector partnerships was one of the strategies highlighted at the event as a tool to help the long-term unemployed re-train for new well-paying, family-supporting careers. These business-led partnerships bring together multiple firms within the same industry along with local colleges, training providers, community-based organizations and workforce investment boards. The employers work together to define common skill standards for hard-to-fill positions, and then partner organizations align publicly funded training and support services to prepare people for those jobs.

Tamasi was called to the White House to share AccuRounds' successes in building a partnership to re-employ local residents in the manufacturing industry. A number of organizations promoting the national expansion of sector partnerships were also in attendance, including National Skills Coalition, (National Fund for Workforce Solutions), and Business Leaders United for Workforce Partnerships. Other event participants included CEOs from national corporations such as Boeing Co., Bank of America and Ebay, small and medium-sized employers, foundations, and other local organizations working to help the long-term unemployed in a variety of ways.

Secretary of Labor Tom Perez and Secretary of Commerce Penny Pritzker joined President Obama at the event to discuss a number of new efforts by the Obama Administration to bring attention to the long-term unemployed. President Obama announced he is dedicating \$150 million in funding from the U.S. Department of Labor for "job-driven training partnerships," also

known as sector partnerships, to help the long-term unemployed get back to work, building on the successful models developed by such organizations as AccuRounds.

Prior to this event, President Obama, along with Vice-President Biden, Secretary Perez and Secretary Pritzker, convened twenty of the top CEO's in the country to share best practices and strategize on how to collaborate in moving successful initiatives forward. Tamasi was one of only two small businesses to participate in this forum. This intimate roundtable discussion was productive, with Tamasi providing input from a small business perspective, asking the Fortune 100 CEO's to include SME's in future dialogue to assure that the entire supply chain has a voice.

"It was an honor to represent AccuRounds, and small businesses across the country, at the White House," said Tamasi. "It's encouraging

"I was honored to represent AccuRounds, Small Business, Massachusetts and organizations like the NTMA at the White House. It truly was a very special and exciting day!"

Michael Tamasi, President and CEO of AccuRounds

that small business had a voice at the CEO roundtable, and that needs to continue. The skills gap is a serious issue and sector partnerships are the best opportunity to close that gap." Later that afternoon, Tamasi was a guest on the Fox Business News show "After the Bell" further stressing the importance of sector partnerships in closing the huge skills gap in America.

THE FOLLOWING IS A LIST OF THE CEO'S THAT ATTENDED THE ROUNDTABLE.

Patrick Beharelle, CEO, Seaton Corporation
Jorge Benitez, CEO of United States and Managing Director of North America, Accenture

Greg Brown, Chairman and CEO, Motorola Solutions, Inc.

Richard Davis, Chairman, President, and CEO, US Bancorp

John Donahoe, President and CEO, eBay, Inc.

Joe Echevarria, CEO, Deloitte LLP

Larry Fink, Chairman and CEO, BlackRock

James Gorman, Chairman and CEO, Morgan Stanley

Mike Lawrie, President and CEO, Computer Sciences Corporation

Jim McNerney, Chairman, President, and CEO, Boeing Company

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Brian Moynihan, President and CEO, Bank of America

Arne Sorenson, President and CEO, Marriot International

Dr. Michael Suess, Managing Board Member, Siemens

Don Thompson, President and CEO, McDonald's Corporation

John Veihmeyer, Chairman and CEO, KPMG

Frederick Waddell, Chairman & CEO, Northern Trust

Greg Wasson, President and CEO, Walgreen Company

Bill Whitmore, CEO, AlliedBarton

Maggie Wilderotter, Chairman and CEO, Frontier Communication

Larry Zimbleman, Chairman, President, and CEO, Principal Financial Group

SMALL BUSINESS OWNERS:

Michael Tamasi, President and CEO, AccuRounds

Anne Zimmerman, President, Zimmerman & Co., CPAs, Inc. & Zimcom Internet Solutions



6 WAYS MANUFACTURERS CAN REDUCE ENERGY

From efficient lighting to renewable energy, manufacturers can use the following six steps to “go green” and cut costs.

1. LIGHTING

A lighting retrofit is an easy, fast, and permanent way to reduce electricity consumption and dramatically cut costs. Payback periods typically range from 12 to 36 months, depending on the size of the manufacturing facility, local electricity costs, and the new lighting installed. And, importantly, the reduction in electricity consumption results in immediate and ongoing lower costs. Replace outdated incandescent light bulbs with light-emitting diodes (LEDs) or compact florescent light bulbs. Install occupancy sensors so lights will operate only when motion is detected.

2. HEATING/COOLING

Many local electric utilities will provide financial incentives to manufacturing facilities for upgrading HVAC systems. Additionally, adjusting the temperature by only a few degrees can significantly impact the amount of energy consumed to heat and cool your facilities.

3. DEMAND RESPONSE

Consumer demand on the grid is often highest in the summer on weekdays between 3:00 – 6:00 PM. Demand response provides the opportunity for manufacturers to receive payments for voluntarily reducing electricity usage during peak demand times. This also benefits the grid system and the environment.

4. ENERGY DATA TRACKING

Consider utilizing an online energy monitoring system. Web-based energy management systems track and report energy costs and consumption, and help facilities increase efficiencies, reduce consumption, and cut costs. Benchmarking tools provide measurements of efficiency projects. Locations can be compared to similar facilities to identify ways to cut costs.

5. RENEWABLE ENERGY CREDITS

To achieve 100% green electricity supply status, purchase Renewable Energy Credits (RECs) to equal the amount of electrons your facility consumes. Each REC represents one megawatt hour of green energy created from a renewable generation source

somewhere in the United States. Sources include wind farms, solar arrays, hydro systems, and biomass facilities. Manufacturers can use marketing material to promote their use of RECs and their “green” status.

6. CARBON OFFSETS

Consider purchasing carbon offsets to neutralize the environmental impact of your facility’s operations. Each carbon offset represents one metric ton of carbon dioxide prevented from entering the atmosphere. You can purchase carbon offsets directly from your local utility company or from an independent third party, including many competitive electricity suppliers.

NTMA endorses APPI Energy to provide unbiased energy consulting services as an exclusive member benefit program. For assistance with performing energy efficiency upgrades, or with purchasing RECs or carbon offsets, call 800-520-6685 or visit www.appienergy.com.



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 - Super slim nose diameters provide outstanding tool clearance

1000 Employers now Participating in Campaign to Accelerate Guard and Veteran Hiring

AMERICAN JOBS FOR AMERICA'S HEROES ANNOUNCED THIS MONTH THAT 1,000 EMPLOYERS ACROSS AMERICA HAVE SIGNED UP TO SEEK AND HIRE WELL-TRAINED GUARD MEMBERS, VETERANS AND SPOUSES THROUGH A NON-PROFIT ONGOING CAMPAIGN TO HELP CONNECT EMPLOYERS AND MILITARY. (WWW.CENTERFORAMERICA.ORG/REGISTER.HTML)

Many small to midsize employers who want to hire Guard members and vets don't have the resources to identify such candidates quickly or efficiently when they have jobs to fill. The American Jobs for America's Heroes campaign is addressing this problem by providing job postings submitted by more than 1,000 participating employers directly to hundreds of uniformed military employment counselors who are actively matching Guard and veteran candidates with jobs. All services to employers and candidates are free.

"Employers need to fill openings quickly. By the time Guard members and vets find the openings posted on job boards, employers may have already filled the job. By immediately getting the postings to counselors in the Guard and other military branches, who then match the posting to the hundreds of candidates each is working with, we can improve opportunities for veterans to be considered," said Steve Nowlan, AJAH campaign director and president of Center for America (CFA), the non-profit group that organized the campaign.

The American Jobs for America's Heroes (AJAH) campaign is a non-profit alliance of CFA, the Army National Guard and two additional non-profit organizations supporting the military, Corporate America Supports You (CASY) and Military Spouse Corporate Career Network (MSCCN). More than 150 trade associations and professional societies, including 28 state chambers of commerce, are supporting the campaign through regular publicity to their members. Some are hosting the AJAH webinar on how to achieve greater success in hiring Guard members and other vets.

"We're thrilled to have more than 1,000 employers in the campaign, which is good evidence that this expedited, hands-on approach has value for companies that often need and want help in their recruiting efforts, said Erin Voirol, MSCCN Executive Director. "Our ability to instantly distribute job postings directly to uniformed employment counselors enables them to focus one-on-one on matching candidates and helping them apply for jobs."



"We're grateful to Dave Tilstone and the many other NTMA leaders that have been helping to publicize the campaign to NTMA members. Nearly 40 NTMA companies are participating in the campaign now, with more signing up every month," said Todd Young, Chief Operating Officer of Center for America. "NTMA was one of the first trade associations to start publicizing the campaign as a great way for the industry to attract Guard members with an aptitude for successfully working with complex equipment and customers with precise requirements."

AJAH was launched two years ago specifically at the request of the Army National Guard (ARNG) headquarters in Washington, DC. ARNG unemployment in state commands ranges up to 15%. AJAH is a voluntary private sector component of the ARNG employment initiative and supports employment counselors and veterans in all other military branches.

"AJAH is helping smaller businesses that may not have dedicated HR people and who may not have hired Guard members or vets before. In fact, about 70% of the employers in the campaign don't have an organized military hiring campaign," said Stacy Bayton, Chief Operating Officer of CASY. "We can help these employers modify their postings to be more relevant to veterans, plus explain how a candidate's experience and training relates to the job requirements. Often this clarification makes the difference in whether an employer makes an offer. It is exciting to all of us on the campaign to help employers succeed with this and our services are free to participating employers."

The National Guard trains in 107 occupational specialties, making the men and women of the National Guard, like their veteran counterparts, among the most highly qualified employment candidates in America. Tens of thousands of Guard and veterans are now seeking employment and, according to the Department of Defense, more than 100,000

soldiers will be downsized from the services in the next few years.

"Tens of thousands of Guard members and veterans are no longer receiving unemployment benefits," said Nowlan. "This heightens the need and opportunity for employers seeking a disciplined workforce to connect with Guard members and veterans who can become reliable and results-oriented assets for growing companies. The government has invested tens of millions of dollars in training, leadership qualities and team values. Employers can benefit from this investment while helping military families build a sound economic future. The AJAH campaign exists to help employers succeed in doing this."

Employers who want to post open positions can sign up through the Center for America website at: www.CenterforAmerica.org/register.html All services are free.

Campaign graphics, videos, and information can be downloaded for use in media at www.CenterforAmerica.org/AJAH_graphics.html.

MEDIA CONTACTS:

Jenny Kefauver, Center for America,
jenny@centerforamerica.org, 703.850.3533
Bryan Kaus, Phillips 66,
bryan.kaus@p66.com, 832.765.1004

Todd Young, Center for America,
todd@centerforamerica.org, 770.317.2423

WWW.CENTERFORAMERICA.ORG

Twitter: <https://twitter.com/USJobs4USHeroes>

Facebook: <https://www.facebook.com/AmericanJobsforAmericasHeroes>

Blog: <http://americanjobsforamericasheroes.blogspot.com/>

ABOUT THE CENTER FOR AMERICA

The Center for America (www.centerforamerica.org) is a non-profit organization founded in 2004 that focuses its national efforts on educating and empowering the public about barriers to free enterprise, the need for expanded skills training and job creation, and the impact of lawsuit abuse on reducing job creation.



6th Annual NTMA/PMA One Voice Legislative Conference



May 6-7, 2014
Washington, D.C.

Invitation from Association Chairs

Come bring some common-sense solutions to Washington and join us for the sixth-annual NTMA/PMA One Voice

Legislative Conference in Washington, D.C., May 6-7, 2014. This is your chance to have your voice heard directly by the policymakers who are creating the laws of the nation.

The new year saw 55 tax credits and provisions expire, including Section 179 Equipment Expensing and the R&D Tax Credit. At the federal agencies, the EPA, OSHA and NLRB are embarking on an aggressive agenda with a focus on increased reporting and making data public.

Meanwhile, manufacturers around the country continue to face a shortage of skilled workers.

The November 2014 midterm elections are only months away and public officials are listening especially closely to manufacturers. Your Senators and Representatives in Washington, D.C. must

hear from you on these and other issues important to your business.

For first timers and those seeking a refresher, the One Voice Washington Office will offer a pre-conference webinar on April 24 to brief participants on what to expect during the congressional visits and the latest policy developments.

We need your help and participation to make sure Washington hears our voice. Please join us May 6-7 in Washington, D.C. to represent manufacturing in America.



Ted Toth, NTMA 2014
Chairman of the Board



Jody Fledderman, PMA
2014 Chairman of the
Board

Agenda

Monday, May 5, 2014

4:00 p.m. – 5:30 p.m. – Early Conference Registration

5:30 p.m. – 6:30 p.m. – Optional Early Arrivals Reception

Tuesday, May 6, 2014

8:00 a.m. – 11:30 a.m. – Conference Registration

11:30 a.m. – 1:00 p.m. – Conference Opening
Remarks, Briefing and Lunch

2:00 p.m. – 4:30 p.m. – Capitol Hill Visits

5:30 p.m. – 6:30 p.m. – Networking Reception
Reception sponsored by APPI Energy



Wednesday, May 7, 2014

8:00 a.m. – 9:30 a.m. – Breakfast, Issues Presentation

10:00 a.m. – 4:00 p.m. – Capitol Hill Visits
Includes lunch with members of Congress

All events take place at the hotel except for Capitol Hill visits.

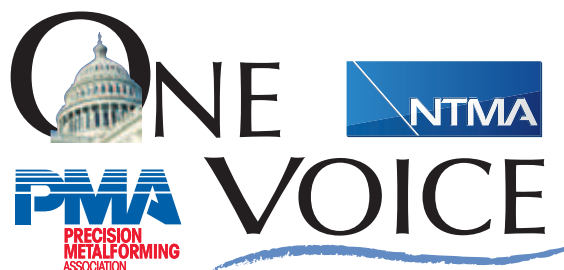
Conference Location/ Hotel Accommodations

Washington Marriott Hotel
1221 22nd Street NW
Washington, D.C. 20037
Phone: 800-228-9290
Rate: \$239 per night (plus tax)

Registration for BOTH the conference and hotel will close on April 1, 2014. Please mention the "NTMA/PMA Legislative Conference" to receive the group rate at this hotel.

To register, return the form on the reverse side or visit www.metalworkingadvocate.org for online registration. Registration deadline is **April 1, 2014**.

Questions? Contact info@metalworkingadvocate.org or **202-393-8250**.



REVOLUTIONARY NOVO™ V1.1 FROM KENNAMETAL ADDS FUNCTIONALITIES, E-COMMERCE, AND MOBILITY CHOICES

DIGITAL SOLUTION PROVIDES KENNAMETAL'S COLLECTED TOOL KNOWLEDGE AND PROCESS PLANNING EXPERTISE FOR DRAMATIC IMPROVEMENTS IN THE WAY WORK GETS DONE.

NOW AVAILABLE FOR IPAD

Launched in 2013, Kennametal's NOVO™ is a suite of digital process planning expertise combined with tool application knowledge designed to dramatically improve manufacturing productivity and process efficiency. NOVO V1.1 now adds additional functionalities, including access to more tools and e-commerce capabilities, to push productivity improvement even further.

"The world is in the midst of building the foundation of monumental change in how manufacturing firms can obtain, manage, and share process and tooling data for significant productivity gain," says John Jacko, VP & Chief Marketing Officer at Kennametal. "With NOVO's embedded intelligence in application engineering and process planning, Kennametal and our partners are opening the path to a completely connected digital art-to-part-to-profit process. NOVO is a big step in making this vision reality."

NEW FUNCTIONALITY, E-COMMERCE

New to NOVO V1.1 are a Turning Advisor and Threaded Hole Advisor. In Turning Advisor, users gain effective ID and OD roughing and finishing strategies with a few clicks. Multiple solutions ranked by productivity are presented, along with smart filters that take the task of selecting all cutting tool components. Compared to using myriad catalogs to find and order parts is cut from hours to minutes, while users get the assurance that the list is both comprehensive and correct.

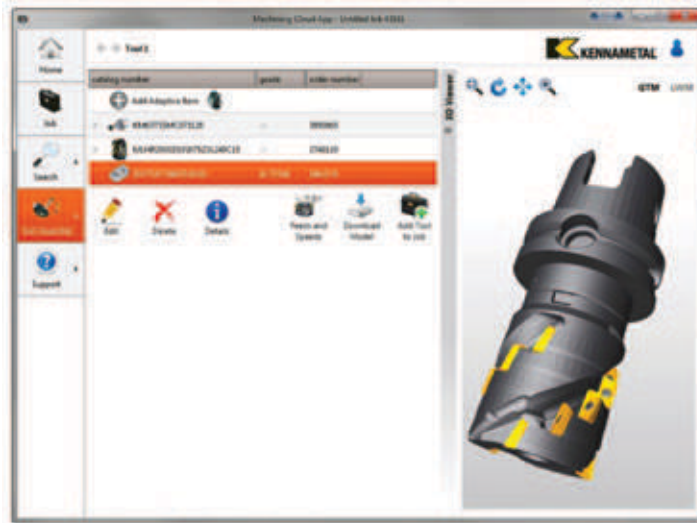
Similarly, the Threaded Hole Advisor can present complete process plans and tool lists in response to request as to how to

most effectively make threaded blind and thru-holes in a variety of materials. NOVO V1.1 also adds the ability to present the most effective choices for threading, grooving, and cutoff applications, including first-choice and

second-choice, tool selector, and tool configurator, everything down the line gets more efficient—from parts quoting through programming, presetting, and production."

ADDING MOBILITY ADDS EFFECTIVENESS

In addition, Kennametal is



More than a catalog, NOVO brings users into a community, all of Kennametal's ongoing expertise delivered in a digital means of accessing process knowledge quickly. The result empowers users by providing the right solutions specifically tailored to their operations.

alternate-choice strategies along with speed and feed information.

In these cases, as well as with milling and holemaking strategies, NOVO V1.1 users can now move tool lists to a shopping cart for online purchase. Businesses get immediate price and availability status, making ordering more effective.

"This is the true integration of our knowledge with our customers'," says Francois Gau, Vice President, Strategic Marketing and New Business Development. "Simply put, NOVO is a process enabler – a true digital assistant with data-rich machining strategies that starts working from the moment you receive a parts drawing. With a refined and intuitive tool advi-

sor, announcing the iPad version of NOVO is available now through the Apple Store.

"With Android and Windows Tablet versions of NOVO on the horizon, this brings added mobility and access to your tool list no matter which device you log onto," says Chris Merlin, Marketing Manager for the Virtual Machining initiative at Kennametal. "This also makes it easy for people working on the shop floor with tablets to collaborate with the process planners in other departments."

Being "device agnostic," NOVO avoids the "which app do I choose and use" or

even the need to evaluate among multiple apps, he adds. And once you log in, all your jobs data transfers over, making organizations and teams much more powerful by extending process knowledge to those who need it. For more information, visit www.kennametal.com.

SIDEBAR 1 – HOW IT WORKS

NOVO can be used in a number of intuitive ways, from "I need to make a 1/2" hole x 1 1/2" deep in ANSI 4140" to "I need a 1/2" by 5xD solid-carbide drill in grade KC7315." In the first case, NOVO helps users define machining features, drilling a blind hole in this case, and then immediately reduces the product set to those that can do the job, taking into account constraint requirements such as material, tolerance, and machining sequence for both single tools and multi-tools. NOVO then ranks the results—based on knowledge-based rules—to best meet the challenges of the application as defined by the customer's operating environment and user preferences, providing far more useful process knowledge than any online catalog alone, all obtained in a fraction of the time.

In the second case, when a customer already has preferred tool and grade in mind, NOVO smart-attribute filters not only quickly select the products avail-



Tablet and iPad versions of NOVO make it easy to collaborate and share process knowledge, making process planning vastly more effective.

able to do the job, NOVO also gives the options on what cutting item and adaptive item fits and also works with the selected solution. NOVO smart filters take the task of selecting ALL cutting tool components from hours to minutes, while users get the assurance that the list is both comprehensive and correct.

In both cases, NOVO's Tool Configurator then provides all CAD files and graphic support for all tool components and their assembly – a major time savings for customers.

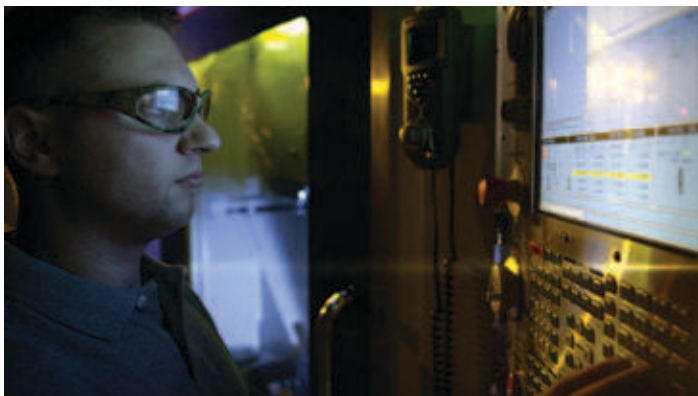
“NOVO thinks like a process planner,” explains Thomas Long, head of the newly formed Virtual Machining RDE department at Kennametal. “It works from the feature back to the tooling strategy. In addition, each order number is tied to application data gleaned from hundreds of subject matter experts and decades of Kennametal experience. Request a part number and you also get pictures, assemblies, spare parts lists, as well as inserts that fit. Not only does it accomplish in minutes what formerly took hours, it yields an optimized solution, backed by Kennametal expertise, every time”

Even further, NOVO's Job Functionality option is a cloud-based repository linked to a user by a unique ID where tool lists can be stored for future use, editing, copying, and sharing. These can be easily downloaded into standard report formats and include tooling commercial and dimensional data and weights, speeds and feeds, and photo or CAD model images.

SIDEBAR 2 - ADDRESSING THE SKILLS GAP

Manufacturing is experiencing a global renaissance in developed and emerging economies around the world as major industries such as aerospace, automotive, energy and others consistently demand new and better products. Manufacturing technology providers have responded with computer-driven machine tools, digital-based computer-aided design and manufacturing software (CAD/CAM), and significant advances in tooling. Yet behind this positive outlook lies a major barrier threatening this scenario: a significantly widening skills gap as older workers retire and new workers fail to engage in manufacturing careers.

“To effectively meet the skills gap for our customers, we need a better way to distribute the collected knowledge of Kennametal,”



Tool selection, tool configuration, and the best applicable tooling advice based on the customer's part and process requirements are all at the touch of a few mouse clicks in Kennametal's revolutionary NOVO. CAD models, complete assembly lists, automated job report functionality and much more all promise new levels of process planning efficiency.

states Francois Gau, VP of Strategic Marketing and New Business Development. “More than a catalog, NOVO brings users into a community, all our ongoing expertise delivered in a digital means of accessing process knowledge quickly. The result empowers users by providing the right solutions specifically tailored to their operations. It solves problems instead of managing data.”

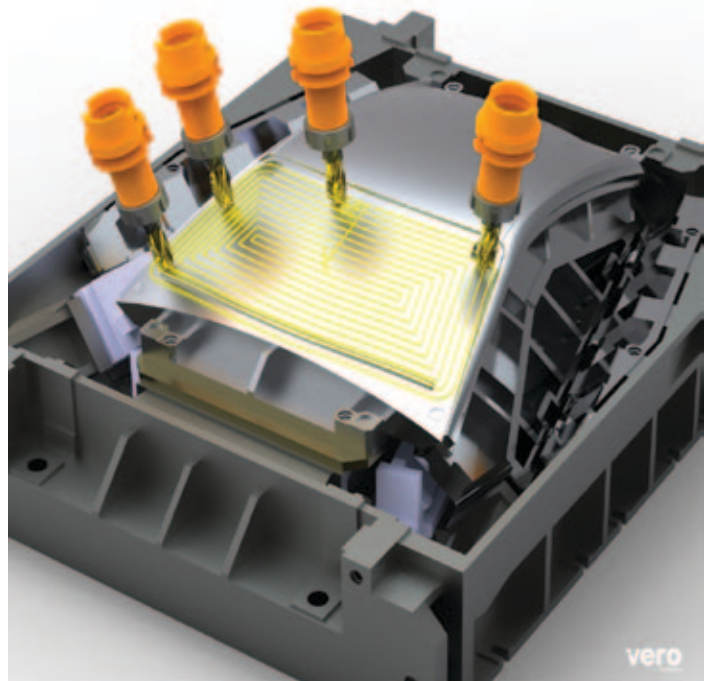


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UNPARALLEL LEVELS OF TRAINING AND CONVENIENCE

WORKFORCE DEVELOPMENT - APPRENTICESHIP TRAINING – COLLEGE CREDITS

NTMA Member cost of \$449.00 and \$100 in textbooks (these textbooks will be used for two Semesters)

Non-NTMA Member cost: \$2,000.00 plus \$120 in textbooks.

Demo of NTMA-U can be found on the NTMA website at: www.NTMA.org

We will work with your employees to insure that your Workforce Training requirements are achieved while they learn essential skills On-Line

We will be using over 300 Tooling-U Modules, Plus Hundreds of Learning Videos

We will offer One-on-One Instructor access, plus National Manufacturing Best Practices. Federal Bureau of Apprenticeship Training Approved

For More Information

Contact: NTMA Vice President

Ken McCreight: 216-264-2834

E-Mail: Kmccreight@NTMA.ORG



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ONLINE EMPLOYEE APTITUDE TESTING SERVICE

NTMA offers a fee-based Employee Aptitude Testing Service that helps members make solid hiring decisions. This validated testing service evaluates technical aptitude, not achievement. It measures a person's readiness to learn and develop proficiency, and it attempts to predict future performance. Members can reduce training time and turnover, increase productivity and prevent legal problems.

- The only known screening device of its kind that has been validated for bias.
- Specifically developed for the Precision Custom Manufacturing Industry.
- Includes a manual explaining the 14 key points needed to make the best hiring decisions.
- Sample interviews with rating factor scales and examples of how to get evidence of job-related experience.

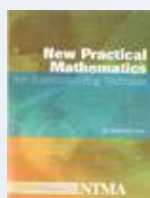
Testing Rates: Members: \$35/test Non-Members: \$150/test

NTMA PUBLICATIONS STORE

We offer the following Major Titles below as well as a complete listing of titles for training machinists on our website store, www.ntma.org



New How to
Read Shop
Prints &
Drawings



New Practical
Mathematics
for
Metalworking
Trainees



Introduction
to Geometric
Dimensioning
& Tolerancing



Modern
Geometric
Dimensioning
& Tolerancing



Moldmaking
& Die Cast
Dies for
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Trainees

For more information Contact
Rich Basalla
rbasalla@ntma.org
216.264.2855

ROUND VACUUM CUPS FROM VI-CAS AVAILABLE FROM .09 TO 14.5 INCHES IN DIAMETER

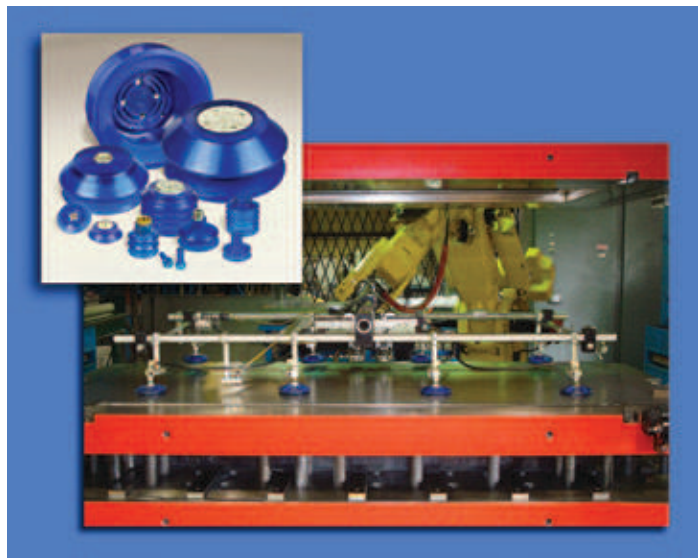
Vi-Cas Manufacturing produces round vacuum cups from .09 inches in diameter to 14.5 inches in diameter - to handle many round, oval, and hard-to-grip products, including those with smooth or textured surfaces. Thousands of styles and sizes are available in materials including vinyl, urethane, rubber, silicone, oil-resistant vinyl, anti-static vinyl, FDA approved materials, and more, to suit most any application. Vi-Cas replacement vacuum cups are installed in virtually every industry, for applications such as packaging, label application, pick-and-place, manufacturing, scrap removal, ergonomic lifters, end-of-arm robotic tooling, and more.

An extensive online catalog, searchable by cup attributes such as diameter, height, width, and more, can be viewed at www.vi-cas.com. Accessories like level

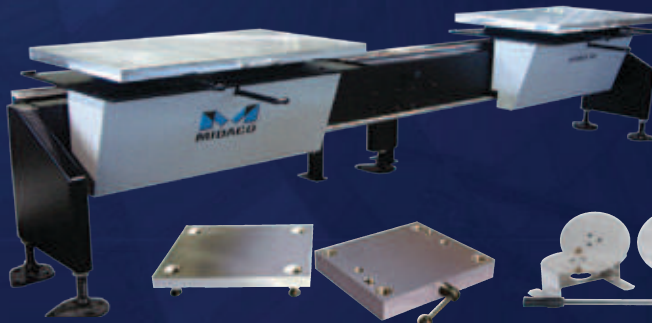
compensators, swivel joints, vacuum valves and fittings and adaptors to enhance vacuum cup effectiveness also available. Vi-Cas can quote custom designs from customer-supplied drawings, or reverse engineer from customer-supplied cups. Free samples available.

Vi-Cas has been manufacturing vacuum cups in various shapes, sizes and materials since 1970. They provide short or long manufacturing runs, with short turnaround times. On demand delivery is also available. In addition to vacuum cups, Vi-Cas manufactures grabbers, suction cups, tightening discs, and grip-

pers, as well as a full line of rollers and roller reconditioning services. For more information contact Rob Wagner of Vi-Cas Manufacturing at (513) 791-7741, 8407 Monroe Avenue, Cincinnati, OH 45236 or visit them at www.vi-cas.com.



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DMG MORI

EXPORTING THE BIG KAISER MODEL TO EUROPE

After more than 30 years of mutual growth and a positive relationship, BIG Daishowa Seiki Co. Ltd. (Osaka, Japan) and KAISER Precision Tooling Ltd. (Rümlang, Switzerland) solidified their longtime partnership in the European and Asian markets.

BIG Daishowa is the world's largest collet chuck producer, and KAISER is a global leader in modular boring and other tooling solutions. The two companies have yet again come together to create a mutually beneficial distribution network—similar to the decade-old partnership that has been so successful here in the United States with BIG Kaiser Precision Tooling Inc. BIG Kaiser Germany ran as a pilot project to test efficacy of such a model in the European market, and the company's success paved the way for a larger European partnership executed through KAISER Switzerland.

"From each company's standpoint, the other market is difficult to enter," said Peter Elmer, CEO of KAISER. "There are so many established rules and conventions that are foreign to both of us. We decided to enter the different markets with the help

and support of the other. It is ultimately about the customers, and ensuring that we can get them the products they need. That's why we want to grow into our partnership with BIG Daishowa."

Elmer cited the two companies' comparable goals as an advantage, ensuring that they will move forward as partners on equal footing. More importantly, both are focused on manufacturing the most precise and repeatable tooling available to the market. Because the two companies occupy a similar space on the quality/premium pyramid, they share marketing strategies, philosophies and experiences. That, combined with years of cooperation, makes the two companies ideal partners for Europe.

On the commercial side, a BIG Daishowa product specialist has been transferred to the KAISER facility for three years to support the transition. He is responsible for answering all questions and merging the workflow of the two companies. BIG Daishowa has a solid foundation in the tightly knit machine tool community in Japan. The new transfer will continue to push BIG products into European machines, expanding horizons and breaking



into new markets.

"We aim to help BIG Daishowa with all of their European operations. Through this partnership, we'll provide BIG customers with products, technical information and support—all funneling through a singular European channel," Elmer said. "As the partnership grows, so will innovation. Working together, we will be able to develop new tools and pursue new ideas. We think in similar ways—we both value precision and quality."

KAISER announced its three-year plan, including its fortified relationship with BIG Daishowa, during the company's recent 65th anniversary festivities. After 65 years, the company is still focused on future improvements.



New Literature Details Engineered Clearance from Dayton Progress Corporation



Optimizing the punch-to-die clearance, which can significantly affect the quality of the resulting hole characteristics, is detailed in a new 6-page, full-color brochure available from Dayton Progress Corporation. Available in print or online at http://www.daytonprogress.com/sites/default/files/776_Dayton's_Engineered_Clearance-web.pdf, Engineered Clearance discusses how the 5% per side

clearance is insufficient for today's high-strength steels, and walks readers through how to select the proper clearance based on material, thickness, tensile strength, and the requirements of the specific job. In addition to smaller burr, clean burnish and break patterns on the perforation, matching the clearance to the material can also extend the service life of the punch. This literature is ideal for those

involved with all types of punching or perforating including high-speed, high-volume punching.

Dayton Progress is a recognized leader for manufacturing and supplying tools and accessories to the Metal Stamping and Metal Forming industries globally. Dayton's more than 800 employees ship millions of tools each year from its 10 factories in North America, Europe and Asia to 20,000 customers in 70 countries.

Dayton Progress is the world-wide leader in the manufacture of catalog and special punches, punch blanks and other precision tooling. They provide single source convenience for tooling in both standard-inch and metric sizes. In addition to a full standard line of precision punches, pilots, die buttons and retainers as well as custom tooling in configurations to suit any manufacturing requirements, the company also markets nanoceramic lubricating grease. For additional information visit them online at www.daytonprogress.com, or e-mail them info@daytonprogress.com or call (937) 859-5111. Write to Dayton Progress, 500 Progress Road, PO Box 39, Dayton, OH 45449-0039.



The NTMA Training Centers' "Robot Conflict 2014" was a huge success!

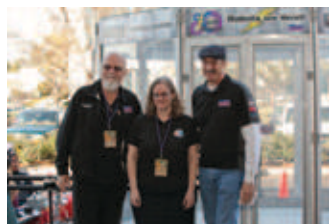


On Saturday, February 8th, 2014 the NTMA Training Centers hosted the first Robotics competition of the new year. The Robot Conflict 2014. The event was held at our Santa Fe Springs Facility and it was really perfect weather for this outdoor event. Over a dozen teams competed in this all day event and there were local High Schools and even a community college involved.

The team brackets were updated live here so no matter where they were, they could see almost instantly who won the round and who moved to the losers bracket. [HTTP://CHALLENGE.COM/ROBOTCONFLICT2014](http://challenge.com/robotconflict2014)

And there were over 20 rounds competed.

Maureen Caruthers, NRL Program Manager, joined us for the event and helped present the awards to our winners along with NTMA Training Centers President, Michael Kerwin.



Our judges were Jheriko Salamy, Johnny Melgoza and Naomi Swarzentruher, from team Smashbotz who did an

amazing job.

Bradley Hanstad has been working with our NTMA NRL Coordinator Richard Loehnig and has generously hosted the events

live-streamed on www.twitch.tv/robotrevo where viewers from around the world can watch our event live. It gives people a chance to leave comments while the event is streaming and there have been lots of positive response from the viewers.



Bob Mosey along with LA NTMA President Darin Martinez were among the volunteers who worked as Pit Runners making sure the bots were ready and getting them to the arena in time for their match.

WINNERS INCLUDED

1st Place: unBEARable Pain from Warren High School

2nd Place: Terminator from John

Glen High School

3rd place: Ares from Los Osos High School

Our king of the ring winner was Thaitanic from Helen Bernstein High School



THE BROCK BABB MEMORIAL SCHOLARSHIP

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

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

The NTMA Education Team shall serve as the selection committee. Only applicants that meet the eligibility requirements will be considered. **COMPLETED APPLICATIONS MUST BE RETURNED BY JUNE 01, 2014. APPRENTICESHIP, WORKFORCE DEVELOPMENT, COLLEGE CREDIT**

Applicants are requested to read carefully all of the following conditions of this program and submit a fully executed Application by June 1, 2014.

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

Submit all information to:

Ken McCreight, Vice President

NTMA Education Team Staff Liaison

National Tooling and Machining Association

1357 Rockside Road

Cleveland, Ohio 44134

kmccreight@ntma.org

(216) 264-2834

ELIGIBILITY REQUIREMENTS:

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

THE EDWIN VOBEDA MEMORIAL SCHOLARSHIP

PURPOSE

The Edwin Vobeda Memorial Scholarship is an annual tuition scholarship created through a charitable donation to the National Tooling and Machining Foundation from the Edwin F. and Mildred Vobeda Charitable Remainder Trust in support of students residing in the Central Time Zone advancing their education in a tool and die apprenticeship program to pursue careers in the tool and die industry. Successful scholarship applicants will receive a minimum award of \$1,000 and a maximum award of \$5,000 annually. It is the intent of the Foundation to award up to three (3) scholarships annually.

SELECTION

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

ELIGIBILITY REQUIREMENTS: All Applicants Must:

Be at least 18 years at time of class start.

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

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

Submit scholarship application and supporting documentation by April 1st of applicable year.

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

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

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

APPLICATION

Applicants are requested to read carefully all of the above conditions of this program and submit a fully executed Application by April 1st of applicable year.

AWARD

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

SUBMISSION: Submit all information to:

Ken McCreight, Vice President

National Tooling and Machining Association

1357 Rockside Road

Cleveland, Ohio 44134

Phone: 1(800) 248-6862; Fax: (216) 901-9190

E-mail: kmccreight@ntma.org

**" SINCE INVESTING IN MAKINO
EQUIPMENT, OUR REVENUE HAS
GROWN MORE THAN 14 TIMES."**

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NATIONAL TOOLING AND MACHINING ASSOCIATION EDUCATION FOUNDATION CHAPTER GIVES \$21K TO AREA EDUCATION

The Northwest Pennsylvania chapter of the National Tooling and Machining Association Education

Foundation recently made contributions totaling \$21,000 to the technical education programs at Cochranton, Union City, and Conneaut Area high schools to fund the purchase of equipment and software.

One of this year's recipients, Chris Yost, the applied engineering instructor at Cochranton Junior/Senior High, supported one of his students in making the application and installing the equipment as part of his senior project.

That student, Tyler Huston, wanted to give back to the program that has offered him a valuable education.

"Our teacher and mentor, Mr. Yost, has prepared me more for real world applications than any other class I have ever taken," he said. "We are able to bring multiple sciences, mathematics, computer skills and other technical skills all together into one program and actually be able to apply them."

As a result of Huston's application to the Education Foundation, Cochranton was able to purchase current programming software and CNC machining technology to use in the classroom. Huston adds, "The new CNC will provide me and other students the opportunity to get technical training during the regular school day. The CNC will also be valuable to the continued success of the RoboBOTS program at our school."

Huston has been accepted to the Air Force Academy upon graduation.

"Throughout the process of applying to our country's military academies I have had to compete with kids that have near perfect resumes, but the skills I have gained through this program have set me above the rest and have allowed me to achieve my goals," he said.

The contributions for technical equipment were made possible through Pennsylvania's Education Improvement

"Throughout the process of applying to our country's military academies I have had to compete with kids that have near perfect resumes, but the skills I have gained through this program have set me above the rest and have allowed me to achieve my goals,"

Tyler Huston

Tax Credit Program (EITC). Through EITC, eligible businesses can make donations to approved Educational Improvement

Organizations such as the Education Foundation, a regional non-profit organization committed to the promotion and support of the custom precision machining and manufacturing industry. The participation of local businesses NuTec Tooling Systems, Northwest Savings Bank, C&J Industries, Acutec Precision Machining, Starlite Diversified, Peters' Heat Treating, PNC Bank, and McGill Power Bell & Associates gives the Education Foundation the ability to fund RoboBOTS, NTMA Manufacturing Student Clubs and automated equipment and related software for classrooms.

"We are very thankful for the businesses that have supported our EITC Program. It is helping us to support the regional RoboBOTS contest as well as area high schools' technical education programs. We know it's a big investment for schools to keep up with technology and it's important to us to have students working on up to date software and equipment," said Chris Minnis, president of the Education Foundation and owner of Laser Tool & Plastics.

Applications for additional funding for regional technical education programs are currently being accepted through Feb. 21. Contact edfoundation@nwpa-ntma.com to receive a copy of the application packet.

For more information about the Education Foundation, go to nwpa-ntma.com online.

YOU CAN APPLY

Technical education programs at area schools may apply for funding for equipment and software from the Northwest Pennsylvania chapter of the National Tooling and Machining Association Education Foundation through Feb. 21. Contact edfoundation@nwpa-ntma.com to receive a copy of the application packet.



Obama Touts Manufacturing, Education on Road Tour

BY MICHAEL O'BRIEN & ANDREW RAFFERTY

President Barack Obama talked up manufacturing jobs as a worthwhile pursuit for young people and said students should not suffer "because adults can't get their act together" during two rallies on Thursday.

Taking his State of the Union message on the road to Wisconsin, the president talked up skilled trades, and signed a directive to have Vice President Joe Biden lead a comprehensive review of federal job training programs.

"Not all of today's good jobs need a four-year degree. But the ones that don't need a college degree do need some specialized training," Obama said at a General Electric gas engine factory in Waukesha, Wis.

"A lot of parents, unfortunately, maybe when they saw a lot of manufacturing being offshored, told their kids you don't want to go into the trades, you don't want to go into manufacturing because you'll lose your job," Obama further explained. "Well, the problem is that a lot of young people don't see the skilled trades and manufacturing as a viable career. But I promise you, folks make a lot more – potentially – with the skilled trades and manufacturing than with an art history degree."

The president otherwise reiterated some of the highlights from his speech, speaking about education, equal pay for women and a higher minimum wage.

Later that day, the president visited a high school in Nashville, Tenn., that he said has successfully blended the instruction of real world skills into a classroom setting.

Obama repeated educational goals such as getting high speed broadband Internet in every classroom, rewarding good teachers and encouraging schools to teach skills directly connected to a job.

"There is no child that we should let slip simply because of politics or because adults can't get their act together," he said. "We need to make sure we're reaching every single one of them as fast as we can but right now we aren't doing that."



Event offers "indispensable" help for businesses.

BY LISA BYERS, MEADVILLE TRIBUNE

The scholarship money handed out at the annual Northwestern PA. National Tooling and Machining Association's annual Blue Collar Bash is what last year's recipient Ken Kuhn describes as "indispensable."

"It is necessary in trying to keep up to date," said Kuhn, president of Kuhn Tool & Die Company. "We were able to do some training on a new type of geometric dimensioning and tolerancing, which was extremely helpful."

His employees will be able to undergo even more training this year.

Kuhn Tool & Die Co. was again one of the winners of a NWPA NTMA Education Foundation \$500 scholarship on Saturday at the 8th annual Blue Collar Bash held at the Meadville Elks Club. Meadville's FosterMation Inc. was the other recipient.

This year's Blue Collar Bash did offer a surprise, however. Kuhn Tool & Die and

FosterMation weren't the only winners. Thanks to a donation by the Crawford County Career and Technical Center, Bravor Tool & Die Co. and Canto Tool Corp., too, will receive additional training this year.

The CCCTC jumped on board with the NTMA this year to offer paid tuitions for an introduction to welding and a machining class offered through its adult program.

"I am the new supervisor of adult programs at the Crawford County Career and Technical Center," said Eileen Mullen, who presented the awards during the evening festivities. "We want to reach out to the community and meet the needs of the community and to thank the NTMA for what they do."

Mullen said she hopes to continue to give similar gifts at future Blue Collar Bash events. She said the winners have the choice of who they want to enroll in the classes.

It was a big night for the Blue Collar Bash



Susan Ritchey of FosterMation Inc. accepts one of the NTMA Education Foundation Scholarships on from Chris Minnis of NTMA at the Elks Club during the annual Blue Collar Bash.

in general. Not only did four businesses earn valuable funds for their continued education and training, the event also set a record for attendance.

Starn Marking Group's Kim Flynn, a member of the NTMA, said 400 tickets were sold in advance, up 100 from a year ago.

The band Junction Pa. entertained the large group. There was also a ticket auction and an opportunity to play a little cornhole.



An advertisement for the Southwest Regional Conference. On the left, there is a photograph of a box filled with various styles of cowboy boots. A white tag is attached to the box that reads "OPEN TO WESTERN REGIONAL CHAPTERS ONLY". Overlaid on the boots in large, bold, red letters is the text "'BOOTS & BUSINESS'". Below the box, it says "Registration information coming soon!". To the right of the box, the text "Southwest Regional Conference" is written in large, bold, red letters, followed by "AUGUST 1-3, 2014" in smaller red letters. Below this, in white text, it says "'SAVE THE DATE' to join us for our 2nd Annual Regional Conference." Further down, in white text, it says "We'll be headin' on over to Dallas for some Texas-sized networking and breakout sessions to assist you in growing your business." Below that, in white text, it says "Conference will be held at the Dallas Fort Worth Airport Marriott". At the bottom, in white text, it says "Presented by the North Texas, Arizona, San Diego, Rocky Mountain, and Northern Utah Chapters of the NTMA."

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If you are interested in attending this show, please contact Emily Lipovan at elipovan@ntma.org



2014 TRADESHOW LINEUP

SYNERGISTIC TECHNOLOGIES. GET THE FULL PICTURE AT HANNOVER MESSE. WWW.HANNOVERMESSE.DE



ENERGY

The energy industry worldwide is facing the need for change.

At the trade fair Energy trade visitors from across the globe can discover how, with the right mix and control, state-of-the-art technology and solutions can meet this challenge. This is the only trade fair for the energy sector which covers the entire value chain – from energy generation, supply and storage through to transmission and distribution to smart grids. All at one venue.



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This leading trade fair is now firmly established as the No.1 business platform for hybrid and electric mobility technologies. The entire industry comes to Hanover to meet its customers worldwide. This is where the key contracts are signed, projects launched and joint ventures further developed.



INDUSTRIAL GREENTEC

Leading Trade Fair for Environmental Technology Following its successful launch, the Leading Trade Fair for Environmental Technology is being further expanded. Themes such as sustainable production,

techniques for safeguarding air and water quality and the recycling industry attract a lot of interest from visitors and the media.

Green technologies, developed by industry for industry, form the core of the exhibition.

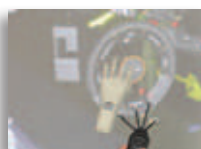


INDUSTRIAL AUTOMATION

The international profile of the event and the broad spectrum of topics and trends covered by Industrial Automation offers exhibitors new opportunities to tap into global markets and thus helps secure your

business success.

In 2014 Industrial Automation will again take up the themes that interest trade visitors from various sectors: the networking of automation and IT, process automation, energy and materials efficiency, robotics and systems integration, as well as smart systems offering solutions in assembly and handling.



DIGITAL FACTORY

Leading Trade Fair for Integrated Processes and IT Solutions.

From the very start the integration of all processes in the industrial value chain has been the core topic of Digital Factory, the Leading Trade Fair for Integrated Processes and IT Solutions.

This focus was reflected by the HANNOVER MESSE slogan in 2013 – Integrated Industry. Embedded software is the most important driver of innovative products, while IT solutions such as those showcased at Digital Factory are the key tools for developing and manufacturing these products.



INDUSTRIAL SUPPLY

Boasting highly specialized expertise and adaptability, industrial suppliers play an important role in their customers' ongoing drive for innovation.

The components and assemblies supplied by these specialist subcontractors are vital for the manufacture of all downstream end products. This symbiotic relationship makes today's industrial suppliers the forerunners of what we now call "Integrated Industry". Exhibitors at Industrial Supply will show how the growing demands of customers can be met through intelligent components and assemblies and collaborative partnerships. Attended by decision-makers from all your user sectors and over 50 nations, this show is the ideal place for you to market your solutions for materials, components, systems and processes.



RESEARCH & TECHNOLOGY

Leading Trade Fair for R&D and Technology Transfer. Industry worldwide faces enormous challenges.

In order to deal with complex issues such as the continuing integration of industrial processes, the transition to renewable energy, the efficient use of resources, sustainability, mobility, lightweight construction and the development of alternative resources and new materials, industry needs science. At the same time, R&D professionals need effective partners in industry and government in order to market their innovations successfully.

NTMA Website gets a Facelift! Check out the new format!

As the national face of the U.S. precision custom manufacturing industry, NTMA works hard every day to tell the story of the growth of manufacturing. Our message is important, for it is essential that a diverse array of audiences, ranging from the business community to policymakers to the general public, recognize the importance of our industry to this country's economy.

One of the key ways that NTMA reaches out on behalf of our nearly 2,000 members – and reaches them directly – is through our website, www.ntma.org. Together, our members represent over \$40 billion in sales, a level of manufacturing muscle that warrants high-quality representation on all fronts ... including online.

Recently, the NTMA made significant changes to the home page of www.ntma.org in an effort to update, modernize and streamline the content on the site. The changes are substantial, as any visitor to the webpage familiar with the previous look of the site, launched in 2011, will recognize.

This is just the beginning: the changes will continue along, touching much of the interior content of the website as well.

The changes reflect NTMA's commitment to seek and reflect the input of our membership, as well as our 50 local chapters spread across the country. And what better place to honor that commitment than the association's own website, a centralized online resource that allows members from all over the country to access key information about NTMA benefits, events, other members, association initiatives and more. In fact, many of the changes came directly from member and Chapter leadership recommendations collected during the Fall Conference and Chapter Leadership Summit in 2013.

SO WHAT'S DIFFERENT ABOUT THE SITE ALREADY, AND WHAT CHANGES ARE IN THE PIPELINE NEXT?

To begin with, the homepage has been restructured to maximize space and offer a clean, accessible interface for visitor's to the site. It now features a dynamic banner that cycles through the latest news and upcoming events. More significantly, emphasis is now squarely placed on four prominent boxes that outline key NTMA member benefits, with each box containing links to tertiary pages inside the site.

The four boxes highlight the following member benefits: "Make Connections", "Grow Your Business", "Train/Educate" and "Get Involved". Here are some details about each:

"MAKE CONNECTIONS":

This box speaks to one of the great value-adds that NTMA provides, the ability to network with industry counterparts from across the country through your affiliation with the association, allowing you to make new business connections, share knowledge, and much more. Website visitors can click

on two links to find out more about this member benefit:

- "Attend local and national events to network with others in the industry"
- "Connect with NTMA and others in the industry on Twitter and LinkedIn"

"GROW YOUR BUSINESS":

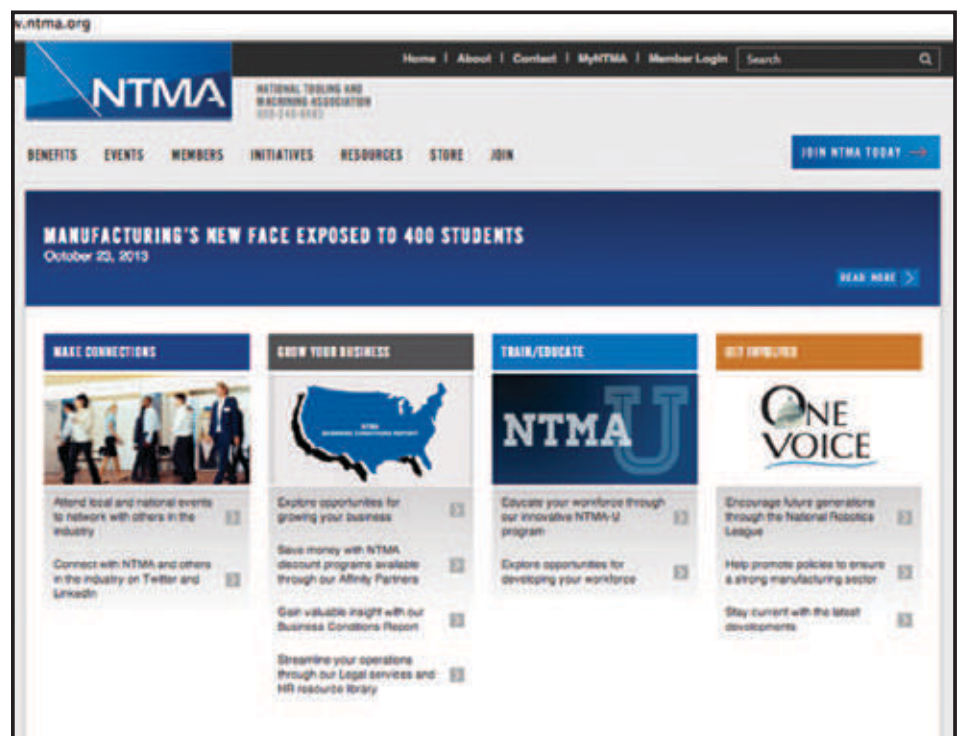
Another major benefit of NTMA membership is the resources that the association provides its members to help grow their businesses. There are four interior website pages linked to this important NTMA priority, each containing different offerings for members:

- "Explore opportunities for growing your business"
- "Save money with NTMA discount programs available through our Affinity Partners"
- "Gain valuable insight with our Business Conditions Report"
- "Streamline your operations through our Legal services and HR resource library"

"TRAIN / EDUCATE":

The NTMA is on the forefront of national efforts to boost workforce development in the manufacturing industry on behalf of so many member companies that looking for ways to fill open positions with qualified employees. The links within this member priority box highlight important NTMA initiatives, such as the NTMA-U program, which offers an online platform for students to earn credits toward an associate degree tailored to the needs of members. The box provides links to two interior pages:

- "Educate your workforce through our innovative NTMA-U program"
- "Explore opportunities for developing your workforce"



“GET INVOLVED”:

The fourth benefit box offers members the chance to take a hands-on role in shaping the future of the industry or learn first-hand about some of the most pressing issues in Washington affecting your company’s future. This box highlights initiatives the National Robotics League initiative, an NTMA-led effort to draw students into manufacturing through the exciting opportunity to build a ready-for-combat robot from the ground up in conjunction with partners at local manufacturing facilities. Also highlighted is the link to One Voice, NTMA’s advocacy effort conducted in partnership with the Precision Metalforming Association, which focuses government relations and public relations efforts in Washington, DC, to help ensure that NTMA is well-represented and listened to on many of the key legislative and regulatory issues of the day.

- Encourage future generations through the National Robotics League

- Help promote policies to ensure a strong manufacturing sector
- Stay current with the latest developments

One other development related to the new website is that it features enriched social media content. The site displays NTMA’s Twitter feed, @NTMATalk, and provides direct links to the One Voice Twitter site, the NRL’s Facebook page, NTMA-U’s dedicated Youtube channel and the NTMA group on Linked In, the popular online networking site. Recognizing the growing utility and convenience of social media, as well as its widespread adoption by a younger audience that represents the next generation of leading manufacturers, NTMA will continue to use social media vehicles

to give people access to the wide variety of exciting offerings and initiatives supported by the association.

Up next, NTMA will begin revamping the look and feel of the pages that are directly linked to the four priority boxes, as described above. The website work will continue to reflect member input and priorities as the association strives to represent its membership’s business needs as accurately and efficiently as possible.

Take a minute to look at the offerings of the new site, and let us know if you have any thoughts or suggestions about additional ways to improve it! As always, we would welcome your ideas and participation as we seek to make our website, and our association in general, work best for you.



NEW NRL TEAM GETS STARTED IN AKRON

Congratulations to one of our newest NRL teams from Wadsworth High School and their company mentor Sattler Machine Products on getting a great start on your first ‘bot!

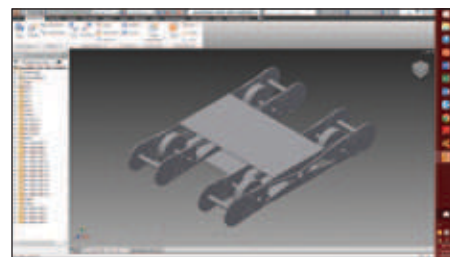


Mr. Terry Ake, Dr. Andrew Hill, Mr. Brad Cashner, Joshua Moore, Joshua Epner, Matthew Mauder, and Mr. Kip Shipley

FROM TEAM MEMBER JOSHUA MOORE:

Our robotics team introduced and demonstrated our functioning robot, and we displayed our preliminary designs for the final product of our robot. We also discussed the importance of the manufacturing industry and how our engineering design class helps us understand and utilize all of the different methods of manufacturing. Brad Cashner and Terry Ake were very hospitable and took the time to tour the attendees around the machine shop. They were also kind enough to provide food and beverages for all of us.

Thank you again Sattler Machine Products for this opportunity to expand our knowledge in the robotics field.



Preliminary drawing for an idea of what their final product will be



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FEATURED HIGHLIGHTS

- Basic & Enhanced listings by Building
- Must Attend Events at IMTS
- “Shout out Section” - A listing of NTMA members who will be in attendance at IMTS



2014 NRL COMPETITION

CLEVELAND, OHIO

MAY 16-17

Lou Higgins Center at Baldwin Wallace College

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Mark your calendars, and plan to join us in Cleveland, May 16-17 for the 2014 NRL National Competition. The event will be held in the Lou Higgins Center at Baldwin Wallace College, a venue that offers easy airport access, free parking and plenty of space for up to 100 teams, 500+ spectators, two arenas, as well as exhibit space for sponsors to interact with students and spectators.

The move to Cleveland also means the teams from many of our most active regions will spend considerably less time on the bus, and everyone can expect to pay less than \$100 per room for overnight accommodations.

Stay tuned for more information about this event. We have some cool things planned for you and can hardly wait to see you there!

Check it Out

Servo Combat Zone is looking for articles by combat robot builders like you! Stories



about recent events, favorite parts or tools, as well as build tips are welcome. Remember, if you are a High School or College rising senior, there's nothing better than

a few published articles on your resume to rise out of the slush heap!

E-mail Kevin Barry, the Servo Combat Zone editor for more information @ legendaryrobotics@gmail.com

Rules Update

Over the summer, the NRL rules committee will be reviewing and updating our technical regulations and competition rules, and we want to make sure we address the concerns of everyone in the league. To that end, if you have a rules change request please email Maureen Carruthers at

mcarruthers@ntma.org and let her know which rule(s) you'd like us to consider changing, and your rationale for the change.



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These companies and organizations gave \$1,000 or more to help make the 2013 National Competition a reality. Want to join them? E-mail Tiffany Bryson @ tbryson@ntma.org for help finding the perfect package for your company.

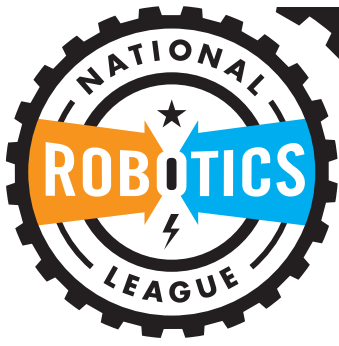


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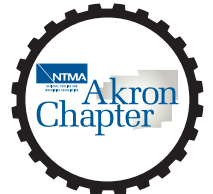
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5H

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SILVER (Quarter Page) - 2.5H

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ON THE ROAD TO RECOVERY?

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FROM ONE MACHINE TO THE NEXT

Is the die and mould industry headed for better days, or the vanishing point?
(Source: lunamarina - Fotolia.com)

This year has started out like any other, full of promise at its outset. However, for the die and mould industries in a number of regions, the seasonal optimism at the beginning of 2014 may flourish throughout the entire year.

The American open road: once the physical manifestation of a zeitgeist driven by the young and restless of the world. The thought of cruising US wide open spaces may now be an idea more steeped in nostalgia than true escapism, but the long, meandering sections of American asphalt are still good for one thing: selling cars.

The world should be thankful Americans enjoy cheap petrol and rising economic prospects, because their willingness to purchase more automobiles along with other manufactured goods has been helping die and mould makers both in and outside of the world's largest economy, support which is expected to continue in 2014.

GERMAN CARMAKERS ANNOUNCE RECORD US SALES IN 2013

The North American giant has become the leading export market by value for passenger cars made in Europe's biggest economy. Sales of German light vehicles (passenger cars and light trucks) in the US rose by nearly 5% to a record of around 1.33 million units, an increase of a staggering 75% from 2009, according to Matthias Wissmann, president of the German automakers association VDA. Considering how much many European mould houses rely on the German car industry, this trend has been a blessing for the sector.

LEADING THE PACK, BOOSTING OUTPUT IN GERMANY, BEYOND

Speaking at the Detroit Motor Show, Wissmann said the upswing in sales over the past few years has outpaced the growth rate of the US light vehicle market as a whole, and he expects exports to increase again in 2014.

With a 16% share of all German passenger car exports, the US is the second-

largest export partner for German automotive manufacturers after the UK. However, in terms of price, exports to the US are number one, with the value of 2013 exports up by almost 9% to €20 billion. BMW, for example, reported that unit sales in the US climbed 8.1% to nearly 376,000 last year.

The German engineering federation VDMA admitted that the strong US car market has helped member tool shops more than merely weather the last couple years. In fact, toolmakers in Germany have been "significantly dependent" on the sector, according to Lothar Horn, chairman of the German Precision Tools Association and CEO of a cutting tool firm. His company, Paul Horn, saw sales to the US surge 25% in 2013 in a market he called "more dynamic than China". Ongoing US strength is one reason the association is predicting record production this year.



Lothar Horn, chairman of Germany's Precision Tools Association, has every right to smile considering growth expectations.

US MACHINE TOOL SALES SUGGEST HIGHER DEMAND FOR TOOLING

If machine tools are any indication, the state of the US manufacturing industry is

vibrant, according to data collected and collated by US publisher Gardner Business Media, the North American media partner of ETMM parent Vogel Business Media. According to the December issue of the Gardner magazine Modern Machine Shop, information from companies around the US indicates that spending on machine tools will rise 19% to \$7.4 billion this year.

This predicted jump follows a trend, according to Travis Egan, publisher of Modern Machine Shop. Speaking with ETMM at the Euromold show in December, Egan noted that US demand for machine tools has been rising over the past few years. According to Gardner and market estimates, spending has been above 2008 levels since 2011. Egan also cited reshoring, the return of metalworking business to the US from Asia, as yet another factor for the rising demand for machining equipment.

Looking at the sector, Egan pointed to aerospace and oil and gas as areas that have been displaying the largest spending growth for machine tools over the past few years. "Die and mould has been a very strong area," Egan added. Machine tool purchases at US job shops are forecast to jump some \$700 million to nearly \$2.6 billion this year, the survey said.

Dave Tilstone, president of the US National Tooling & Machining Association, explained that machine tool sales typically translate to investments by customers of association members, which in turn result in higher business levels. He noted that while the housing and automotive industries are bullish for 2014, association members have expressed less optimism. He said approximately 80% of the members polled expect 2014 business levels to be the same or experience a moderate increase.

"Perhaps this is the hangover from the challenges of 2013," Tilstone noted. "Backlogs are also lower going into 2014, which affects our member optimism." He

added that some members are reporting that work is returning from Asia and cited the example of General Electric, which recalled its hot water heater business to the state of Kentucky in 2011. These returning products tend to be high-tech and coupled with customers of members focusing on cost reductions and improvements in their supply chains, Tilstone explained.



Dave Tilstone, president of the NTMA, said US die makers are more optimistic about 2014 than their mould making counterparts.

US MOULD PRODUCTION TO BE GOOD, DIE OUTPUT SEEN BETTER

"In general, the die and mould members are more optimistic about 2014 than 2013 and specifically more in the die industry than in the mould industry segment," Tilstone said. Within this segment, members are purchasing stamping presses and doing more value-added work that includes sub-assemblies for their customers, he noted. At the moment, obstacles for the industry seem straight forward. "Foreign competition continues to be the number two challenge of our members in this segment, with the lack of skilled labour remaining number one."

Up, down, and in the middle inside of Europe

On this side of the Atlantic, caution remains the watchword. Even with the expectations for record precision tooling output in Germany, the rest of the region offers a mixed bag due to individual difficulties within national economies.

Istma Europe, the association of national precision tool groups, met in December

in Helsinki to discuss the environment. "It seems that the work load and business conditions are still positive in Europe," the association said. However, it noted that the present financial and economic situations in this region are still affecting the industry in several countries. Furthermore, a number of member countries raised concerns about business conditions for the first half of 2014. And like their counterparts in the US, European shops are having trouble finding the right people to fill vacancies. "The lack of qualified human resources in the industry was also pointed out by the majority of the members," Istma Europe said.

The last set of data Istma Europe released showed that one-third of the countries polled hinted at a possible upturn in the last half of 2013. Mould shops in nine European countries rated business conditions in the first half of last year as fair to good and said they expected more of the same for the final six months of 2013, according to the survey. Istma Europe data for the period covered Estonia, Finland, Germany, Hungary, Italy, Portugal, Sweden, Switzerland and Slovenia.

Macroeconomic data has underlined optimism. Indexes of Eurozone manufacturing activity hit their highest levels in more than 30 months in January, according to pollster Markit Economics. An extended period of strong industrial production has some predicting that the Eurozone recession could end this year.

LIFE ON THE ISLANDS HAS BEEN LOOKING UP THANKS TO CARS...

Expectations in the UK for 2014 are high, according to Julia Moore, president of the GTMA, the British precision tooling association. After a "very good" 2013, toolmakers feel confident about the current year, she said.

Unlike the die and mould industries in many other countries, the UK sector

exports very little and is thus reliant on the domestic market. So despite the dependence on homegrown demand, much of the UK's recent success—just like in Germany and the US—has come from the road, or, more specifically, the vehicles that

drive on it. Moore said the past growth and current optimism has been "mainly driven by the automotive industry, which is very buoyant".

...BUT BUSINESS WOULD BE BETTER WITH JUST ONE MORE THING

Surging demand in the car business, along with high expectations in aerospace and the energy sector—a boon for composite tooling—has been further supporting optimism. In fact, manufacturing has also been shaking off some of its patina and bur-nishing up nicely, Moore noted, pointing out that both the British government and media have been increasingly discussing the sector. The additional public scrutiny, combined with the improving demand for tools, has UK shops chuffed. "This is a very nice position for toolmakers to be in," Moore said.

As in other countries, Moore noted that demand for machine tools also tends to correlate to better prospects in the precision tooling sector, an effect she has been witnessing in the UK. Even if shops have enough tooling to expand production, one asset is missing: Qualified personnel, a lack of which is holding back shops from taking on additional business. The shortage is so severe that it could hamper growth for the industry this year, Moore said, explaining that some tool building may be exported.

HOSTS OF THE WORLD CUP, THE OLYMPICS, AND TOOLING GROWTH

In South America, Brazil is firing on all cylinders. Indications that automakers Fiat, Volkswagen and General Motors will fill their die and mould demand locally in 2014 provided relief for tool shops losing orders to Asian competitors, ABINFER, the Brazilian die & mould industry association, said. Association Vice-President Paulo Braga noted that Inovar-Auto, a federal government program, will boost sales in the sector.

Braga explained that since it was announced in October 2012, Inovar-Auto has attracted R\$8.3 billion (€2.6 billion) in investments into the country, but the impact on the sector so far has been small. Despite the lack of support from the programme, other factors helped the sector survive and remain stable.

However, 2104 will boom, Braga said. He predicted the growth rate this year could be as high as 50% compared to 2013.



Faster, faster, faster: car industry resurgence has been accelerating tool and die growth around the world.

FACT OR FICTION?

OKUMA IS NOT JUST A LATHE MANUFACTURER



FACT

You may think of Okuma as a lathe manufacturer, and if so, you're absolutely right. But with our wide array of more than 70 products and nearly 300 product configurations (from lathes to HMCs, VMCs, 5-axes, double-columns, grinders, FMS, and controls) we're so much more. Your needs are unique, and there's no "one size fits most" when it comes to being more efficient, reliable and cost-competitive. Okuma's breadth of products allows us to provide precisely the right machine tool for you. [Watch our video and learn more at Okuma.com/corpvideo](http://Okuma.com/corpvideo)

One fact that never changes is the Okuma Difference. Distributors, Partners in THINC, and Okuma worldwide deliver depth of service, strength of technology and control, and a breadth of product that you'll find nowhere else on the planet.



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In today's manufacturing, predictability is becoming increasingly important. Production that runs smoothly, without unexpected interruptions, allows for secure "lights out" production and high machine utilization, a cornerstone for profitable production processes.

Following the successful introduction of insert grade GC4325 in October 2013, Sandvik Coromant now extends that assortment and introduces new grades GC4315 and GC3330. All three grades feature Inveio which brings endurance, predictability and long tool life to the machining process.

TECHNICAL BREAKTHROUGH

The performance of these grades is made possible by Inveio's uni-directional crystal orientation. Normally, the crystal orientation of the CVD alumina coating is random. Sandvik Coromant found a way to control the growth of the crystals, lining them up in the same direction



to create a stronger, uniform structure of the coating. These tightly-packed crystals create a strong barrier toward the cutting zone and chip.

The result is grades that offer incredible wear resistance and cutting edges that stay in shape and last longer in the cut. The long, predictable tool life of GC4325, GC4315 and GC3330 enables secure unmanned produc-

tion with a high metal removal rate.

APPLICATION AREA

GC4325 is the first choice grade for steel turning. When GC4325 reaches a limit in metal removal rate due to high speed and long time in cut, GC4315 withstands the high cutting temperatures that occur. GC3330 is the first choice grade for milling in cast iron materials.



MECWASH CELEBRATES ITS 20TH ANNIVERSARY BY REVISITING FIRST EVER INSTALLATION

Aqueous component cleaning specialist, MecWash Systems Limited, is celebrating its 20th anniversary by revisiting its first ever installation project at The Pegler Yorkshire Group.

Founded in the 1890s, The Pegler Yorkshire Group is now a leading manufacturer of advanced plumbing, heating and engineering products, distributing to over 110 countries worldwide.

In November 1994, Pegler Yorkshire chose to install the first MecWash system to replace its existing inefficient dunk wash machine and rotational basket spray wash machine, as both were unable to wash high volumes of components at one time, thus creating a bottle neck in production.

The MecWash MSP (Multi-Purpose System) 400 offered Pegler Yorkshire an aqueous component cleaning system which was capable of cleaning and drying four tote pan loads of parts in a cycle time of only six minutes, with an effective drying function that ensures all components are degreased, swarf free and ready for assembly.

Pegler Yorkshire Production Engineer, Steve Potts, confirms, "Pegler Yorkshire urgently required a component cleaning system that would allow us to wash high volumes of components at once, within a reasonable cycle time. The MecWash M101 MSP 400 fit the bill perfectly, offering high volume washes, short cycle time and effective drying ability."

By the end of 2000 Pegler Yorkshire had installed three more MecWash systems to improve their manufacturing production.

Steve Potts continues, "Pegler Yorkshire was so impressed with the efficient and effective design of the MecWash MSP 400 that we chose to install three more systems in order to support production. The installations took place over a period of six years, finishing in November 2000. Since then Pegler Yorkshire has used all four component cleaning systems

on a daily basis and remains impressed with the speed, reliability and cleaning capability of the MecWash design."

MecWash has now manufactured and distributed over 600 aqueous component cleaning systems to a wide variety of market sectors worldwide. The reliability and speed of the systems remain key selling points 20 years on, as evidenced by the fact that many of its older systems remain in daily use.

MecWash Managing Director, John Pattison, says, "Revisiting MecWash's first installation project is an excellent way to celebrate the company's 20th anniversary - what's more, the fact that the system is still in use demonstrates the durability and reliability of the system, especially when one considers the high volume of usage from a leading manufacturer like Pegler Yorkshire."

"Looking back over the past 20 years it is incredible to think what MecWash has achieved - from the development of new bespoke systems for some of the world's leading manufacturers and the launch of our waste water recycling system Aqua-Save, to selling component cleaning machines worldwide; including most of Europe, China, America and India. We are looking forward to building on this success over the next 20 years and more!"

For further information about MecWash Systems please visit www.mecwash.com.



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HIDDEN IN PLAIN SIGHT: EXCELLENT JOBS, NO COLLEGE DEGREE NECESSARY

BY J. ANDERSON, SPECIAL SECTIONS



Two of the most persistent myths about Southern California are that it has no manufacturing jobs, and that you need a four-year college degree to qualify for a well-paid career in some of the Southland's most exciting industries.

The truth is very different: manufacturing is alive and well throughout Los Angeles, San Bernardino, Orange, and Riverside counties. The skills that adults of any age or background can acquire in a seven-month vocational training program in precision machining can open up lucrative career opportunities where even the sky isn't the limit – Southern California's thriving aerospace and aviation manufacturers would be grounded if not for the work of machinists.

DOCTORS DON'T MAKE PACEMAKERS

According to Terry Kerwin, Executive Director of Marketing and Admissions at the nationally accredited, private non-profit NTMA (National Tooling and Machining Association) Training Centers of Southern California (www.trainingcenters.org), there are some 5,000 companies in Southern California that employ machinists. They range from Jet Propulsion Laboratory, SpaceX, and Rickenbacker Guitars, to operations that design and manufacture everything from movie props and theme park apparatuses, to airplanes, pie tins, robots and



medical devices.

"Doctors don't make pacemakers or hip replacement parts. Machinists do," Kerwin observed.

Kerwin spends most of her time educating people on what modern manufacturing is: "The conventional view is that it is dangerous, dirty, labor-intensive, and involves hard lifting or heavy equipment," she explained. "But new

technologies and robotics have made much of it clean and safe, with some machines so refined and precise that women can operate them as easily as men. Inspection, which we include in our course offerings, is crucial to machining. Some of our graduates will never run a machine, but will work in clean rooms inspecting precision-machined parts, instead."

She added that while the field is still dominated by men, over the past eight years NTMA Training Centers has seen its student population go from about one percent to approximately six percent female.

JOB PLACEMENT RATE: 93 PERCENT

NTMA Training Centers of Southern California has been around since 1968. It has campuses in Santa Fe Springs/Norwalk and the Inland Empire's Ontario. Nationally accredited, it is comparable to community college in affordable tuition and financial aid programs; veterans can utilize their benefits there, too. While having a high school diploma or GED is helpful, it isn't necessary. Class schedules cover morning, afternoon, and evening hours so a student with a full-time job can still attend. It has regular job fairs and lifetime job placement assistance. Demand for its graduates is so high that the Norwalk campus has a 93 percent job placement rate; the Ontario campus' placement is about 85 percent.

Student ages range from 18 to 60 and older, including mature professionals displaced from various careers by changing marketplaces and technologies. Working machinists also attend advanced courses in areas such as CNC (computer numerically controlled) machining and master CAD/CAM programming.

The main campus, in Santa Fe Springs/

Norwalk, celebrated its Grand Opening in late October after moving from a smaller location nearby to a vast new 46,000 sq. foot training facility. It accommodates multiple classrooms, computer labs, and a huge machine shop equipped with CNC machines, CAD/CAM computer stations, vertical mills, lathes, and much more. As in NTMA's 29,000 sq. ft. satellite Ontario campus, the machines on which students train are the same types they'll be using in the real-world workplace.



PERFECT ATTENDANCE PAYS OFF

Michael Kerwin, President of NTMA Training Centers of Southern California (and Terry Kerwin's husband), said the seven-month timeframe is ideal for older displaced workers needing high-paying replacement careers but who don't want to make a four-year college commitment, and equally ideal for younger people who are often extremely bright but lack the temperament to thrive in a formal university setting.

The courses are about 70 percent hands-on practical learning in small classes taught by faculty machinists, and about 30 percent "soft skills" such as job interviewing and resume writing. Tuition includes books, supplies, tools, metals, and a case the student fills with completed projects to show to prospective employers. The school even provides snappy professional-looking shirts with the NTMA logo for wearing on job interviews.

"We get job orders every day, and they never ask for a candidate's grades. They ask about attendance. So we provide perfect attendance certification for students who earn it in addition to their overall certification," said Kerwin. "We teach a good work ethic as well as precision machining skills."

For more information, visit www.trainingcenters.org or call 1-800-962-6862.





Look to Women to Help Tackle Manufacturing Workforce Shortage, FABTECH Canada Panel to Propose

DIVERSITY-FOCUSED PANEL DISCUSSION TO KICK OFF THREE-DAY CONFERENCE ON KEY ISSUES FACING MANUFACTURERS TODAY

Recruiting qualified employees in the face of a declining workforce is a top problem facing today's manufacturers. And solving it will require taking concrete steps to narrow the gender gap, say industry experts as they prepare for FABTECH Canada, the only event of its kind in this country, which takes place March 18-20, 2014, at the newly-renovated Toronto Congress Centre.

"Manufacturing today is more about brains than brawn," said Allison Grealis, vice president, of membership and association services at the Precision Metalforming Association (PMA), and director of Women in Manufacturing (WiM), a 400-member-strong organization established in 2011 to support women in the manufacturing sector. Grealis will be moderating the FABTECH Canada opening day panel discussion, Diversity in the Workplace: Embracing Women in Manufacturing.

"If we're going to fix the workforce shortage, we can't just focus on half of the population," said Grealis. "We have to look at women as a viable solution to fill the gap and commit our industry to doing a better job of attracting, retaining and advancing women in manufacturing."

The opening day discussion on diversity, sponsored by WiM, PMA and Metalforming magazine, will kick off this year's FABTECH show on Tuesday, March 18 at 8:30 a.m.

"If we're going to fix the workforce shortage, we can't just focus on half of the population. We have to look at women as a viable solution to fill the gap and commit our industry to doing a better job of attracting, retaining and advancing women in manufacturing."

Allison Grealis, Director of Women in Manufacturing

with a keynote address by popular TV personality, metal fabricator and race car driver Jessi Combs. Combs will share her own inspirational story about her career in the manufacturing sector. The full opening session will examine the current state of women in manufacturing. In addition to proposing ways to attract women to manufacturing careers, the panel – which includes Natalie Panek, a mission systems and operations engineer with MDA Space Missions, and Karin Lindner, the founder of Karico Performance Solutions – will also highlight the benefits of a diverse workplace.

"What we're seeing is that women make up 50 percent of the general workforce, but only 30 percent of the manufacturing population," said Grealis. "Our biggest challenge is selling the story of today's high-tech manufacturing environment. Too many women – of all ages and backgrounds – don't see manufacturing as a professional path because they aren't aware of the many opportunities in today's modern manufacturing facilities."

In Canada, women accounted for approximately 475,000 of 1,734,000 manufac-

turing jobs in 2013.

Immediately following the panel discussion, FABTECH will offer a comprehensive educational program featuring targeted technical, operational, economic and managerial sessions designed to exchange best practices and explore latest advancements. Sessions are grouped into the following categories: Laser/Cutting, Management, Forming and Fabricating, Finishing, Welding, Stamping and Robotics. Highlights include a look at the skills gap and what manufacturers are doing about it, the latest applications for lasers in industry, more on manufacturing workforce solutions, and an in-depth look at welding and finishing fundamentals.

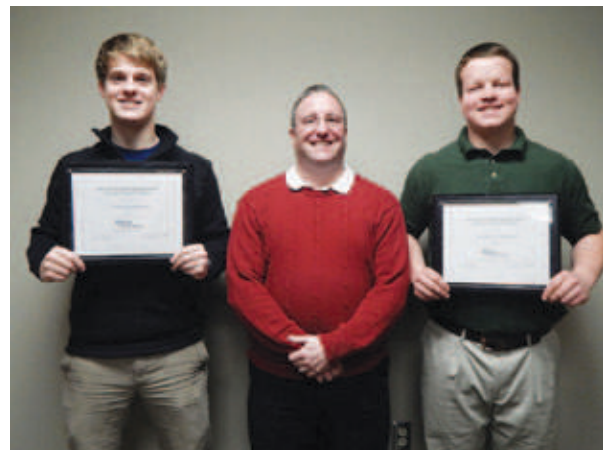
FABTECH Canada is hosted by SME, The Fabricators & Manufacturers Association, Int'l (FMA), The American Welding Society (AWS), PMA, and Chemical Coaters Association International (CCAI). Significantly expanded in size and scope, FABTECH Canada 2014 features a larger conference and welding area, and brand new finishing and stamping pavilions, in addition to a wide range of exhibiting companies.

For more information or to register for FABTECH Canada 2014, please visit www.fabtechcanada.com or call 1-888-322-7333 ext. 4447.



2014 MICOR® STUDENT WORKFORCE DEVELOPMENT AWARD WINNERS

MICOR Industries presented its 2014 MICOR Student Workforce Development Award to Decatur Heritage Christian Academy seniors Taylor Nichols and Austin Littlejohn. The students will have the opportunity to spend a day shadowing MICOR Industries Vice President Dave Ponegalek and will also take a trip to Houston to visit with MICOR customers. Taylor and Austin were selected for the award based on essays they submitted a panel interview conducted by MICOR. The Student Workforce Development Award program was developed to encourage more high school students to choose careers within the manufacturing industry.



Pictured left to right: Taylor Nichols, Dave Ponegalek, Austin Littlejohn.



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Davlan, a Manufacturing Success Story



Davlan's employees gather to celebrate Davlan's 50th year



Davlan celebrated its 50th year in business in September 2013 with a 50th anniversary celebration with over 300 invited guests. The celebration was complete with big band music, a live sculptural event, plant tours and delicious food. The weather was wonderful and the party could not have gone better!

This was an important milestone for the St. Louis company founded by two high school friends just out of college, Lanny Lamont and David Weitz, Sr. The two bought a lathe for \$100, placed it in Dave's 6' tall fruit cellar and began producing their first jobs. (Interesting to note that both Lanny and Dave are each well over 6' tall.) While keeping their day jobs, they worked nights to complete orders. In 1964 Davlan outgrew the cellar and moved operations to Dave's garage. Continued growth resulted in the move to its current space; with added space came added machinery and employees requiring the first of many building additions. In 1978 Davlan added foundry capabilities with a 50% share in Brentwood Castings



Lisa (Lamont) Uhlenbrock CFO, **Lanny Lamont** President, **David R. Weitz, Sr.** Executive Vice President, **David R. Weitz, Jr.** Director of Operations

(now Carr Lane Castings) and purchased the neighboring building and lot for future expansion. Through its foundry connection Davlan formed a lasting relationship with renowned artist and sculptor Ernest Trova and devotes an entire department to the production of modern artwork.

Additional growth came with a long-lasting defense industry relationship, increased demand on the punch press department and the purchase of a 50% share in Quality Screw Machine Products. Further growth 1992 and 2006 brought added capacity with 2 two-ton overhead bridge cranes, additional water jets, press brakes, a Trumpf laser, production saws and a vibratory finishing room – now with a company total of over 50,000 square feet. Davlan, like so many other family owned small businesses, lends its success to hard work and dedication of its 50+ employees, 25% of which have been with the company more than 20 years. Lamont and Weitz founded Davlan on the belief that if you provide a quality product, at a competitive price, with timely delivery, and consider yourself part of your customer's team, you will grow with your customers. For 50 years Davlan has done just that. Since the first project in 1963, Davlan has delivered on this promise and the company has grown and earned an unsurpassed reputation for its knowledge, loyalty, precision and performance.



GRAINGER SHOW 2014



Bob Mosey, Herb Homeyer, Ted Toth, Jeff Walmsley and David Tilstone represented NTMA at Grainger Show 2014 at Orlando's Orange County Convention Center. In its tenth year, this February 2014 event was the largest Grainger Show to date. The Show included more than 600 supplier booths, seminars and networking sessions as well as "Grainger Town," a more than 20,000 square-foot interactive exhibit featuring Grainger's latest solutions to solve business issues.

With 15,200 attendees, this year's Show brought together 8,100 Grainger customers, 4,100 manufacturers/suppliers and 3,000 Grainger team members to discuss emerging trends in areas such as inventory management, e-commerce and safety.

Among the many expert speakers

was NTMA President David Tilstone, who gave an overview of NTMA and presented "Issues NTMA Members are Facing" in a Manufacturing Networking Session; he later represented NTMA in a Skilled Trades Roundtable.

"Our customers are problem solvers who face two crucial challenges each day," said Deb Oler, vice president and general manager, Grainger Brand. "They are charged with keeping their businesses up, running and safe, and when something breaks, fixing it fast. Each year, they need to do this with fewer people and less money. Grainger gets this and we are committed to having our customers' backs. The Grainger Show



David Tilstone at Grainger Show 2014

highlights the latest solutions, services and products, designed to help customers save time and money, while staying safe."



MITSUBISHI EDM MOVES INTO ADDITIVE MANUFACTURING WITH MATSUURA PARTNERSHIP, LUMEX AVANCE-25

MC Machinery Systems, Inc., wholly owned by Mitsubishi Corp., proudly announces its partnership with Matsuura Machinery Corporation, Fukui City, Japan, in introducing the new LUMEX Avance-25 metal laser sintering hybrid milling machine to the North American marketplace.

The recent additive manufacturing boom is reaching fever pitch in North America. Meanwhile, Matsuura's laser sintering hybrid milling machines have been sold specifically in the die and mold industry in Japan and Asia. With MC Machinery Systems being the number one EDM machine sales in North America, this partnership makes sense.

"We are the only company devoted in the manufacturing in this business, thus the combination of Matsuura and MMS is a great partnership for the manufacturing base," says Nick Giannotte, VP, EDM/Milling/Waterjet.

"The mold makers know us and know our people, and we're excited to be able to offer them this innovative new technology. We have an experienced dealer network, many of whom boast 40 percent market share in their regions. They have relationships with the markets, not to mention the more than 10,000 person-strong customer base we have at MC Machinery."

Sales expansion won't be limited to mold and die; MC Machinery and Matsuura are also aiming at the aircraft industry, in which lightweight parts will add fuel efficiency, and the medical industry, which requires custom-made bones and implants. All told, this machine will serve medical, automotive, aerospace, tool/die, and job shop industries.

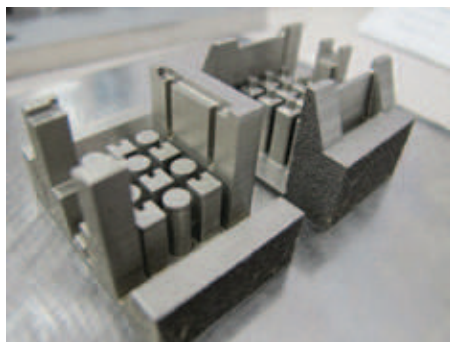
Technical centers located in Chicago, Los Angeles, Toronto, and New Jersey are equipped with demo facilities and staff to serve the North American market and demonstrate the LUMEX Avance-25's unique capabilities.

THE MACHINE

The LUMEX Avance-25 metal laser sintering hybrid milling machine is the only machine in the world which relies on one-ma-

chine, one-process manufacturing of complex molds and parts by fusing metal laser sintering (3D SLS) technology with high speed milling technology. The machine enables production of complicated parts through total manufacturing by digital engineering, using 3D data. The machine achieves the highest accuracy in part fabrication since metal powders are melted and sintered via laser, while surfaces are precisely milled at high speeds.

Metal laser sintering and milling technologies working in concert will allow engineers to think outside the box and create unique ideas, potentially triggering a departure from conventional manufacturing.



DIE AND MOLD APPLICATION

Dies and molds with very complex geometries can be fabricated in one piece with high accuracy, shortening lead time and reducing manufacturing costs to a half or even

a third of conventional methods. Also, 3D cooling channels can be incorporated into molds in the single setup, thereby increasing cooling efficiency and enabling high-cycle injection molding with better than ever quality and precision, reducing costs and improving efficiency.

APPLICATION TO PARTS PRODUCTION

Differentiated original parts production with internal structures, thus far considered impossible, are feasible on this machine. What's more, this metal laser sintering hybrid milling machine is capable of quick turn production of custom parts, whether prototypes or small production run parts.

MC Machinery System's superior products are backed by industry-leading service and support. For more information about Wire EDM, Sinker EDM, Laser, Waterjet, Press Brake, Milling, High-Speed VMC, EDM Drill, or Consumable Products, contact MC Machinery Systems, Inc., 1500 Michael Drive, Wood Dale, IL 60191, Phone: 630-616-5920 or visit www.mitsubishi-world.com.



WELDING END PREP TOOL BATTERY POWERED FOR TRUE PORTABILITY

A field-proven, right angle drive I.D. clamping pipe milling tool for performing welding end preps anywhere an air hose or electric cord is unavailable is being introduced by ESCO Tool of Holliston, Massachusetts.

The Tube Weasel Battery MILLHOG® is a right angle drive I.D. clamping welding end prep tool that employs a wedge-style blade locking system and TiN coated cutter blades to perform clean, ready to weld, end preps without cutting oils. Now available with a rechargeable 18V Lithium Ion battery pack, this tool is ideal for use anywhere air or electricity is unavailable.



Featuring three clamps which fully contact the mandrel and expand inside the tube, the Tube Weasel Battery MILLHOG® is suitable for milling tubing and pipe from 3/4" I.D. to 3" O.D. and only requires a 3" radial clearance for boiler tube panel repairs. The battery is rechargeable using 120/220V and can be easily retrofit with existing pneumatic versions of the tool.



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NTMA-U CONTINUES TO RAISE THE BAR ON TRAINING WITH CLOSE TO 300 STUDENTS NOW TAKING COURSES, AND OVER 500 MECHANICAL APTITUDE TESTS COMPLETED

BY KEN MCCREIGHT – NTMA VICE PRESIDENT

NTMA-U has surpassed all projections in growth, and has elevated the NTMA to once again be a resource to our members workforce development needs.

At no time in NTMA history has workforce development been more critical to our members. Workforce Development is on the front burner with education and obtained highly desired skillsets that are the key to not only to our individual student's career goals, but also the economic vitality and quality of production for our members businesses. NTMA-U's technical training that has a focus on specific course content such as; Simulated CNC training using 16 various control panels, GDT, SPC, Special Steels and Tooling, built upon a foundation in Basic / Intermediate / Advanced Blueprint Reading, Basic / Intermediate / Advanced Math, and Basic / Intermediate / Advanced Manufacturing Technologies have positioned our students – (Your employees), to become extremely efficient in every day production outcome.

NTMA-U Technical training courses prepares your employee with highly sought after skillsets, thereby making a better employee while enhancing your employees personal enrichment.

NTMA-U provides our members with in-house trained / on-demand availability of skilled workers that can't be found through any other "new employee" recruiting method.

The Mechanical Aptitude Test identifies, and ensures that a potential new hire has the ability to learn our trade, prior to spending hundreds, and even thousands of dollars in training, only to find that the individual does not have what it takes to be a highly skilled employee.

The NTMA Workforce Development Team has spent three years developing NTMA-U course outcomes with a focus on the Precision Metalworking Industries highest-priority skill set requirements. NTMA-U education and training of-

fers critical areas that has helped and will continue to help ensure a strong Workforce for our members long into the future.

NTMA-U provides workforce development courses that improve our learners' employability and earnings potential, which increases profitability for our members. NTMA-U through the Education Team, continues to develop an integrated education and workforce training structure, that maps to NIMS outcomes, meets and exceeds the Office of Apprenticeship's, Division of Standards and National Industry Promotion efforts, produces highly skilled workers,

and leverages our members resources to aligned priority needs, and maximize benefits of training. NTMA-U supports college partners through articulation agreements that award upwards of 21 College Credits upon completion of the 600 hours of training offered through NTMA-U, and offers certifications that aligned with the needs of today's industry.

FOR MORE INFORMATION PLEASE CONTACT:

Ken McCreight

NTMA Vice President - 216-264-2834



How NTMA Members Can Manage the Impact of the 2014 Small Package Rate Increases

FedEx and UPS recently announced their annual small package rate increases. The UPS rate increases took effect on December 30, 2013, while the FedEx rate increases take effect on January 6, 2014. 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 and freight rates will increase an average of 3.9% for U.S., U.S. export and U.S. import services.
- FedEx Ground and FedEx Home Delivery rates will increase an average of 4.9%.
- UPS Ground, Air and International rates will increase an average of 4.9%.

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



Your Shipping Connection

make sense of these increases.

Now is the time to take full advantage of the benefits available to you through the NTMA Shipping Program. When you visit PartnerShip.com/54ntma and enroll in this free program, you receive significant discounts on select FedEx® services – helping to offset these new rate increases.

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



SMALL MANUFACTURERS EMBRACE THE CLOUD

A TOOLING MANUFACTURER GAINS PROCESS VISIBILITY, AND RISES TO ITS GROWTH POTENTIAL, WITH OFFSITE BUSINESS SOFTWARE TO COORDINATE PROJECTS AND PERFORMANCE

We are witnessing an exciting transformation in U.S. manufacturing, with production and jobs returning to parts of the country overdue for good news. Perhaps more exciting is how the revival of domestic manufacturing is lifting smaller producers, companies like Dillaman Mold & Manufacturing in Meadville, Pa., which specializes in tooling for plastic injection molding machinery. Much of the recent expansion in domestic manufacturing can be credited to companies like Dillaman that are aggressively seizing opportunities for growth.

Even while that growth continues, success is not guaranteed. Small manufacturers cannot effectively compete if they are relying inefficient, paper-based systems that were a poor choice even during the last economic rise, half a decade ago. What's more, without new technologies, on the shop floor and in the managers' offices, manufacturers are likely to underperform during the current growth cycle. Worse than that, they'll be unprepared for inevitable dips in the future.

Chad Dillaman, who owns Dillaman Mold & Manufacturing, has been an early adopter of technology and explained that he's constantly looking for competitive advantage. He saw the potential advantage when "cloud computing" emerged as a next-wave technology. The promise of the cloud – that it would level the playing field by providing easier, more cost-effective access to business software – resonated with him.

"Small manufacturers struggle with unpredictability," Dillaman explained. "Sometimes they're overwhelmed with orders, while other times it's painfully slow.

"With software, however, you can see what's really happening inside the business – at a glance," he continued, "and this enables you to take proactive steps to avoid frustrating production peaks and valleys."

For Dillaman and other small manufacturers, software had always been something of a luxury. Larger companies touted major benefits, but they also acknowledged the significant costs and difficulties with implementation.

EVERYTHING YOU NEED TO GROW

Dillaman's first experiences with on-premise software may have been better than most, but now he's a believer in the greater

versatility and cost-effectiveness of cloud-based solutions.

"My first piece of advice to small businesses is this: don't be afraid to embrace new technology," says Dillaman. "It can be intimidating at first, but once you get going, managing the business is far less complex; everything you need to grow and increase profitability is suddenly at your fingertips."

His comfort level with technology has made him an early adopter of mobile tools, too. Today, he relies on smartphone apps to monitor production and help him make decisions from wherever he may be. While on a business trip, for example, he can see instantly that a foreman on the factory floor has used a tablet to update a job order. If he receives a customer inquiry about the job status while driving home, the answer – accurate up to the minute – is just a few clicks away.

"Instead of having to come into the shop on the weekends or when I'm traveling, now I can simply log-in to my system through any computer, anywhere, anytime," said Dillaman. "I also have access to scheduling and quoting technologies that can automate time-consuming tasks that many small manufacturers still do manually."

Cloud technology gives smaller manufacturers like Dillaman advantages that once took larger businesses months (if not years) to realize with costly and unwieldy ERP and CRM platforms. Without requiring extensive customization, which is how the costs begin to add up, a small manufacturer now has unprecedented visibility into job status, cost of production, inventory, and the up-to-date status of each customer. Today's manufacturing software, enabled by the cloud, is much easier to implement and demands far less time and resources to "go live," finally making it accessible to hundreds of thousands of small businesses in the U.S. alone.

RAPID IMPLEMENTATION, RESULTS

The cloud makes accessing software faster, more flexible to organizational circumstances, and easier to execute. Within days, businesses like Dillaman's have access to dashboards that show areas of strength, weakness, and opportunity, and all this is possible without painstaking number crunching.



Providing an order date and price no longer takes hours – during which time a competitive offer may arrive, and it's now possible to space orders and plan production according to the most up-to-date inventory, order, and production statuses.

"Before moving to cloud-based manufacturing software, I couldn't confidently quote a job, especially when it could be delivered," Dillaman said. "Now, I can see in seconds what the status is and build a schedule that more efficiently spreads work. This lets us manage our manufacturing teams better and, most important, it ensures that we're delivering the best customer experience possible."

Beyond improved customer experience, these new software tools allow a user to understand better how to increase a company's margin. Simply put: a clear understanding of how the business works helps the user to spot new opportunities with clarity. For example, Exact Online provides comprehensive CRM capabilities and visibility into cost of goods sold, enabling companies to better understand how to grow their potential customer base.

TECHNOLOGICAL ADVANTAGE

The worldwide market for cloud computing will grow 18.5 percent this year to \$131 billion, according to analyst firm Gartner. What's exciting about this transformation is how it's enabling smaller U.S. manufacturers to more effectively compete in both the U.S. and global marketplaces. The playing field is leveling, at least enough for smaller manufacturers to start thinking beyond "hanging on" and begin to plan for new growth.

Yes, larger enterprises had the first crack at new technologies such as ERP and CRM, but they also worked out many of the kinks, helping the industry develop better models for delivery and operation that benefit smaller manufacturers as well.

"Manufacturing software, enabled by cloud and mobile technologies provides a recipe for success for hundreds of thousands of small manufacturers like us," said Dillaman. "The stage is now set for a new era of manufacturing opportunity and growth."



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WINTER ACTIVITY IN WASHINGTON SETS THE STAGE FOR 2014



The skills gap and job training issues are getting more and more

visibility thanks in part to the efforts of One Voice and its members, who have made it a priority to trumpet the need for skilled workers at every opportunity. On January 30, the White House announced an initiative led by Vice President Joe Biden to make federal workforce and training programs more focused on relevant skills, easier to access for employers and job seekers alike, and more accountable for producing positive employment and earnings. In consultation with industry, employers and their associations, the Vice President has six months to create an action plan to achieve these goals.

On January 31, the White House hosted a summit with 300 employers who committed to hire the long-term unemployed and pledged \$150 million in federal support to "prepare and place the long-term unemployed into good jobs." The event was attended by several One Voice members, including NTMA mem-

ber Michael Tamasi of Massachusetts-based AccuRounds, who spoke at the summit and later discussed the skills gap issue live on Fox Business News.

On the healthcare front, a key provision of the Affordable Care Act (or "Obamacare") has been delayed ... again ... this time until 2016. Originally scheduled to take effect in 2014, the provision had already been delayed by a full year. Employers with 50 to 99 employees now have until January 1, 2016 to offer health insurance to full-time workers or face penalties. Companies with 100 workers or more must offer coverage to at least 70 percent of full-time employees in 2015 and 95 percent of full-time employees in 2016 in order to avoid penalties.

Finally, with Senator Max Baucus of Montana becoming ambassador to China, committees are shifting hands in the Democratic-led Senate. Oregon Sen. Ron Wyden will take over the Finance Committee. Sen. Wyden has a history of interest in tax reform, having co-authored a bill with Republican Senator Dan Coats of Indiana in 2011 meant to simplify the tax system and hold down rates, though

it's unclear whether Wyden will revive that legislation. Sen. Wyden's ascension hands the top spot on the Senate's Energy and Natural Resources Committee to Louisiana Senator Mary Landrieu, placing an outspoken advocate for robust domestic energy production atop a committee that plays a key role in setting U.S. energy policy. Finally, Washington Sen. Maria Cantwell takes over the Senate Committee on Small Business and Entrepreneurship.

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



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HOW THE LITTLE GUYS CAN WIN IN TODAY'S DAVID-AND-GOLIATH BUSINESS WORLD

BUSINESS INTELLIGENCE EXPERT SHARES TIPS FOR USING ACTIONABLE DATA TO GAIN THE ADVANTAGE

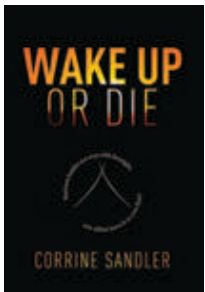


Corrine Sandler is the founder and CEO of Fresh Intelligence Research Corp

Before the internet, small companies didn't stand a chance against the Goliaths, says Corrine Sandler, a globally recognized leader in business intelligence and market research.

That's because no war can be won without intelligence and, before the digital era, collecting actionable data and information about one's competitors, market and customers cost a lot more than most small businesses – the Davids – could afford.

"But today, the Davids are taking down the Goliaths," says Sandler, founder and CEO of Fresh Intelligence Research Corp., a global business intelligence company, and author of the new book, "Wake Up or Die" (www.wakeupordie.us), a



comprehensive guide to the use of intelligence in the contemporary business environment.

"Thanks to the internet, the boutiques and startups have access to all kinds of free tools for gathering intelligence. They're also much more agile than the big corporations; they can make a decision and act immediately. That's essential in a marketplace where conditions change quickly."

In "Wake Up or Die," Sandler applies lessons from Sun Tzu's "The Art of War" – the 2,000-year-old military treatise penned by one of the greatest commanders in history – to the modern business economy. Sun Tzu held that the goal in any war is to win without ever entering into physical battle.

"By gathering actionable data and acting on it immediately, by using it to pre-

dict next moves and spot opportunities, small businesses can and are taking down the big ones without a drop of blood being shed," Sandler says.

SHE OFFERS SMALLER BUSINESS OWNERS THESE TIPS FOR ACQUIRING AND USING INTELLIGENCE:

- If you lack resources, make use of free or inexpensive intelligence-gathering tools. Visit competitors' websites and collect data about them. Many businesses put a great deal of revealing information on their sites, which can benefit you. Also, make note of any changes on their sites. Google Alerts can tell you when they're releasing new products or expanding. Use Google analytics tools such as Google Hot Trends to tell you what's in the collective consciousness – potential consumer demand – at any given time. Google's key word tool will give you ideas for powerful key words in search terms, and use the traffic tool to measure global volume on those key words.

- Make intelligence-gathering part of your company's culture. From the manager who overhears a conversation in the grocery checkout line to the clerk obsessed with Twitter, every employee in your business is a potential intelligence resource. Encourage employees to pay attention as they interact with others outside the company. They may discover a nagging issue that no other company is addressing, allowing you to create uncontested market space. Or, you may learn critical information about a competitor that allows you to seize an advantage. Make intelligence gathering a company lifestyle.

- Appoint a Chief Intelligence Officer (CIO) to coordinate and analyze information from a variety of sources. In smaller companies, leaders tend to rely on pipe-

lines of internal information provided by employees who don't understand how to use intelligence to make empowering decisions. That can render important data inactionable (unusable or simply not used). A CIO can oversee and coordinate the collection and analysis of intelligence, and brief you – the business leader – daily so that all data is actionable.

"What enables you to make smart, timely decisions is access to precise intelligence," Sandler says. "Your advantage, as a smaller business, is that you don't have the corporate processes and protocols that inhibit fast action."

"As Sun Tzu wrote, 'It is said that if you know your enemies and know yourself, you can win 100 battles without a single loss.'"

ABOUT CORRINE SANDLER

Corrine Sandler is the founder and CEO of Fresh Intelligence Research Corp, a global market research agency; international professional speaker and author of "Wake Up or Die," (www.wakeupordie.us) a new book that applies lessons from Sun Tzu's ancient classic, "The Art of War," to contemporary businesses. Corrine's company was ranked No. 2 on Profit Magazine's list of top 50 fastest-growing companies, and Corrine has been on Profit's top 100 Female Entrepreneurs list two years in a row. With more than 20 years' experience, she has established a reputation for unparalleled consumer understanding and insight development working with Fortune 500 companies.





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

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

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

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

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

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

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

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

SEMESTER 5 (100 HOURS) SPC / MFG PROCESSES

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

SEMESTER 6 (100 HOURS) ADVANCED MANUFACTURING PRACTICES AND PROCEDURES

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



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DID YOU KNOW?

GUIDE TO MEMBER SERVICES

NTMA'S E-TRENDS GOES WEEKLY!

The National Tooling and Machining Association (NTMA) has partnered with MultiBriefs, a division of MultiView, Inc., to publish its E-Trends digital news brief. E-Trends will now be a weekly email resource providing comprehensive industry news and other interesting stories of importance to tooling and machining professionals.

The new E-Trends will contain articles gathered from an expansive list of sources, including publications from around the globe, as well as NTMA staff and members. Beginning March 5th, E-Trends will be delivered weekly to the inboxes of NTMA members and those interested in keeping up to date on the latest association news, Chapter news, upcoming events and industry developments. E-Trends is a great way to stay informed and can be easily read in your office, home, or via your mobile phone or PDA. Archived issues and an RSS feed also are available.

To help keep information flowing among the NTMA community, NTMA manufacturing members and Chapters may submit stories and articles for inclusion in E-Trends. Please email your submissions to Kelly LaMarca at klamarca@ntma.org.



The NTMA Shipping Program Freight Management Company Celebrates its 25th Anniversary

PartnerShip, the company that manages the NTMA Shipping Program, is celebrating its 25th Anniversary this year.

PartnerShip was founded by the non-profit National Association of College Stores (NACS) in 1989 to help college stores with all of their small package and LTL freight shipping needs. 25 years later, they are now a leading shipping solutions provider to small and medium businesses

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CALENDAR OF EVENTS

MFG MEETING

March 5-8, 2014
Phoenix, AZ

NTMA PURCHASING FAIR

April 1-2, 2014
Pittsburgh, PA

HANNOVER MESSE TRADE SHOW

April 7-11, 2014
Hannover, Germany

NTMA/PMA ONE VOICE LEGISLATIVE CONFERENCE

May 6-7, 2014
Washington, DC

NATIONAL ROBOTICS LEAGUE COMPETITION

May 16-17, 2014
Cleveland, OH

NTMA PURCHASING FAIR

June 3-4, 2014
Chicago, IL

NTMA FALL CONFERENCE

October 22-25, 2014
New Orleans, LA





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NTMA MI Member

"Attending NTMA Purchasing Fairs has given our company more than enough business to pay our dues forever. I met another member at a Purchasing Fair as we were standing in line waiting to talk to a buyer. Several months later, I got a call from that member that had just landed a huge contract that he needed our kind of expertise to fulfill. We ended up with a long-term contract worth over \$7 million because, I happened to start talking to another member."

NTMA PA Member