

## THE GLOBAL MARKETPLACE:

**NTMA equips members  
to be competitive**

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The latest from One Voice. - pp.6-7

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World renowned presenters, must-know policy updates, member exclusive health care... and more. - pp.19-25

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It's time to gear up. Let NTMA help you prepare for the 2017 event. - pp.40-41





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LOOK FOR THIS SYMBOL THROUGHOUT THE ISSUE FOR STORIES  
 RELATED TO THIS MONTH'S FEATURED TOPIC.



# 2017 NATIONAL EVENTS AND TECHNICAL SEMINARS

August 23

Emerging Leaders Roundtable: Financial  
 Management for Non-Financial Managers - St. Louis, MO

August 24

How To Be A Top Shop Seminar - St. Louis, MO

September 5-7

MMS Top Shops Conference - Indianapolis, IN

September 13

Financial Managers' Roundtable - Philadelphia, PA

September 17-22

EMO, Hannover, Germany

September 26-27

PMA Sales & Marketing Summit - Milwaukee, WI

September 28

PMA Sourcing Solutions - Milwaukee, WI

October 24-27

Fall Conference - San Antonio, TX

November 9

Plant Managers' Roundtable - Detroit, MI



# MARK YOUR CALENDAR! OCT 6, 2017







## PRESIDENT'S UPDATE

DAVE TILSTONE / NTMA PRESIDENT



One of my objectives, as set forth by the Executive Committee, has been to provide information and develop opportunities for NTMA members to become familiar with and experience international business opportunities. Over the past five years, we have conducted two Technology Tours to Europe and one to Japan. These include visits to some of the world's leading technology providers to our industry. We visit their companies to learn how their technologies apply to NTMA member businesses, their culture, apprenticeship programs as well as making key introductions to their executives. Our first trips outside the US were the Executive Guided Tours of international trade shows. These have included two visits to Hannover Messe featuring automation, the Bauma Show featuring heavy equipment and machinery coupled with two visits to EMO (the third is from September 17th to 22nd in Hannover, Germany with a few spots remaining).

Visiting Hannover Messe and Bauma expose members to the most current and advanced automation and equipment offered primarily by European companies. Unlike IMTS and EMO that showcase technologies applicable to our industry, these shows consist of market segments of your current or prospective customers. The objective with these two shows is to introduce potential customers to members interested in broadening their market or increase current

market penetration. Aside from providing executive introductions to potential customers in these market segments, the suppliers of these markets are also at the shows. As an example, both shows had a significant number of companies involved with hydraulic and pneumatic components. Meeting the product and sourcing managers at these shows offers a unique venue for business development. Members who have joined us are briefed before the visits on potential opportunities, booths that will be visited and most importantly, preparing marketing materials and encouraging members to bring sample parts.

EMO (<http://www.emo-hannover.de/home>) is one of the largest metalworking trade shows in the world. It attracts approximately 145,000 visitors from 110 countries making it approximately 50 percent larger than IMTS. Technical presentations are also a major part of the EMO program and will include progress with Industry 4.0, market segment updates and the latest in additive manufacturing applications to name a few. NTMA's upcoming trip to EMO in September will provide members introductions to new technologies being introduced in Europe. VIP passes will be provided for easy access to the show with an executive briefing by the EMO organizers on our first day.

New technologies introduced at EMO may not become available for a year to 18 months to the rest of the world, so it provides a preview of what's to come. There will be numerous (20-25) booth tours over our three-day visit to EMO. These Executive

Technology Booth Tours have been prearranged with executives of companies you know, and some that you may not be familiar with. You will see many of these technologies in action to see how they can help you and your company. It's also an excellent opportunity to see first-hand the technologies your European competition is using, or will be using, to improve their productivity and lower their cost. Staying current with new technologies and those being used by your European competition are key objectives of your visit.

Before we begin the EMO booth tours, we will visit VW's headquarters in Wolfsburg, Germany ([https://en.wikipedia.org/wiki/Wolfsburg\\_Volkswagen\\_Plant](https://en.wikipedia.org/wiki/Wolfsburg_Volkswagen_Plant)). It's the headquarters of VW and the largest automotive plant in the world. We will be hosted by a VW executive who has influence on tooling (die and mold) and component sourcing in North America. We will be briefed on VW's outsourcing plans and requirements. Their focus on improving the efficiency of their supply chain is paramount to the success of their plants in Chattanooga, Tennessee and Puebla, Mexico and as such want to pursue local suppliers. We will then take a tour of the auto manufacturing and assembly plant to complete the day. For more information on joining us and on the EMO Executive Tour, please contact Brittany Belko at [bbelko@ntma.org](mailto:bbelko@ntma.org) or visit our registration page: [https://members.ntma.org/eweb/ProfilePage.aspx?WebCode=CSCEventInfoSC&evt\\_key=c213b499-d752-4b70-aab4-d1ad5494d3e9](https://members.ntma.org/eweb/ProfilePage.aspx?WebCode=CSCEventInfoSC&evt_key=c213b499-d752-4b70-aab4-d1ad5494d3e9). Space is limited and offered

CONTINUED ON NEXT PAGE

# THE RECORD

## OPERATIONS & EDITORIAL

Dave Tilstone, President  
Molly West, Editor

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Volume 38 / No 8



on a first come first serve basis, including hotel rooms.

For a broader perspective on global trends and technologies especially in the tooling industry, we have actively participated as an ISTMA (<http://www.istma.org/istma-world/>) member for the past several years. I just completed my three-year term as the ISTMA World president at the ISTMA World Conference (<http://istma2017.com/en/>) hosted by Abinifer (Brazil's tooling association) in the center of Brazil's tooling capital, Joinville, Brazil. Mark Vaughn as well as Herb and Lisa Homeyer joined me for the three-day conference. With over 270 attendees representing 13 countries, the program included technical presentations

and white papers from some of the world's leading authorities and subject matter experts. Visiting the local tooling suppliers and Weg, a local Brazilian electric motor and component supplier, were very interesting and impressive. Many of the tooling suppliers we visited supplied the large automotive OEM's and their tier 1 and tier 2 suppliers in Brazil with molds. The largest tool shop was at Weg with over 5,000 engineers, designers and tool makers dedicated to their tooling requirements. Weg produces over 50,000 electric motors globally per day. Included in the tour was a visit to a technical school that specializes in apprenticeship training for the local tooling industry. The campus included

SEE "PRESIDENT" PAGE 6

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"PRESIDENT" CONTINUED

class room and shop floor training but also had their own tool shop producing complex molds for customers.

In summary, becoming familiar with global markets, competitors and technologies is an important strategic element for any US manufacturer to remain competitive. At NTMA we offer various venues and opportunities for members to become acquainted with international experiences and knowledge so you can be more competitive in a global market place. I encourage every NTMA member to take advantage of one of the international tech tours and see for themselves how valuable these can be to you and your company.

DAVE TILSTONE / NTMA PRESIDENT




## WASHINGTON TRADE ACTIONS AFFECTING MANUFACTURING

BY OMAR NASHASHIBI, THE FRANKLIN PARTNERSHIP, LLP



During the campaign, candidate Donald Trump promised change in Washington on a wide range of topics. However, as his healthcare, immigration and infrastructure plans continue to face hurdles, sources indicate he is increasingly focusing on trade as the issue where he can take more unilateral action without Congress. Businesses should begin bracing for possible changes on NAFTA, imports of raw materials, and potentially tariffs placed on U.S. exports by other countries.

Although still not announced by the time of this article, the president is telling his advisors he would like to impose tariffs or import quotas on foreign steel and aluminum. While the NTMA opposes illegal trade and recognizes the overcapacity created in large part by China, restricting the raw materials our members use will simply shift the injury from steel producers to U.S. steel users. Studies indicate there are currently 6.5 million Americans employed in steel consuming industries, far outnumbering other manufacturing industries.

In late April, the president directed Secretary of Commerce Wilbur Ross to launch 232 Investigations into the impact on national security of imported steel and aluminum. The Commerce Department held two separate hearings on each and received nearly 1,700 pages of comments, including those filed by the NTMA asking that they take into consideration the impact tariffs on steel and aluminum will have on downstream manufacturers. Restricting domestic supply of critical raw materials will lead to an increase of foreign tooling, dies and components imported into the U.S. with foreign steel, all duty-free.

In July, the chair and president of NTMA flew to Washington and met personally with Secretary Ross requesting that if he does recommend tariffs, that he extend to the production to downstream components to prevent the shifting of injury to our members and leading to lost American jobs.

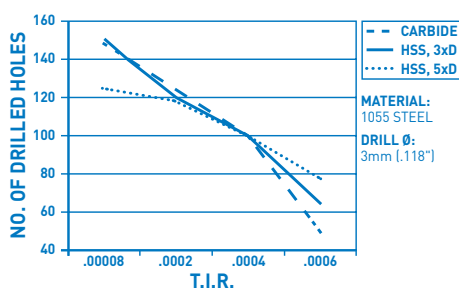
Sources indicate the secretary understands our concerns but is leaning towards recom-



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mending that the president impose tariffs on imported steel and aluminum while National Economic Council Chair Steve Cohen is strongly opposed to any restrictive action that could harm the U.S. economy, as seen following the 201 tariffs set under President George W. Bush.

The president could take several steps, including placing tariffs on all imports of steel and aluminum products from all countries; exclude certain countries (Canada, Mexico, Europe) and/or specific steel products; or impose import quotas allowing a set amount of imports after which tariffs kick in.

Manufacturers across the spectrum continue to raise concern over import restrictions, from NTMA members to auto producers to beer can makers. Many of the metals our members use are in short supply, or not manufactured in the U.S. Imposing tariffs on products not even made in the U.S. serves no purpose but will lead to downstream manufacturers facing higher costs and losing business to foreign competition.

The president had expected to make an announcement prior to July 4 but disagreements among his top advisors persisted through the G-20 meetings and following. The European Union and others released a list of U.S. manufactured goods exported on which they will impose tariffs. The retaliatory measures strategically target a number of critical U.S. industries and politically sensitive goods manufactured in states in which a Senator faces a 2018 re-election.

In addition to the action on steel and aluminum, the president also sees an opportunity to act unilaterally on NAFTA and released his negotiating objectives on July 17. The U.S. is undergoing an internal 90-day review process and seeking input from stakeholders for priorities, including those submitted by NTMA. Under the 2015 Trade Promotion Authority law, negotiations with Canada and Mexico can begin on August 16 and most expect accelerated talks fairly early on. Negotiators are well aware of the U.S. 2018 elections looming and also how the Mexico presidential election in July 2018 will complicate the process further.

The U.S. is not expected to unilaterally withdraw from NAFTA, but businesses continue to request some form of stability in the process and not an unraveling of the 23-year old agreement. Mexico and Canada are also completing their own 90-day internal reviews but remain frustrated with the slower U.S. pace as the administration has yet to fill many of the top positions needed to negotiate a complicated agreement.

Among the U.S. priorities receiving the



most attention is increasing North American content requirements known as Rules of Origin. Currently set at 62.5 percent for autos, any products with U.S., Canada, or Mexico content above that level crosses borders duty-free. While still unclear how high the level will reach, some are calling for 75-82 percent requirements for duty-free treatment. Secretary Ross has made currency a major focus seeking to increase the value of Mexican and Canadian currencies to improve their ability to purchase U.S. goods. Discussions also surfaced on imposing a "snap-back provision" allowing for tariffs on goods if a certain level of balanced trade is not met.

NTMA filed comments in June with the Commerce Department stating that manufacturers need stability in any NAFTA update; to make paperwork reduction a priority reducing red tape at the border; harmonization of compliance standards; border crossings, visas, visitor requirements, and localization; transshipments, currency, State Owned Enterprise abuse, and trade law evasion; and Rules of Origin.

Rumors in Washington circulated as well that the administration may also seek to renegotiate the Korea-U.S. Free Trade Agreement, though members of Congress began to push back calling on the White House to comply with the 2015 trade law and consult lawmakers ahead of further action on Korea. Meanwhile, Capitol Hill is weighing in on NAFTA as individuals push their own priorities.

Representatives of the Mexican and Canadian governments continue to meet with lawmakers and state governors whose economies are significantly tied to NAFTA.

Every new president eventually realizes their powers are far more limited than envisioned. The nation's founding fathers created a robust system of checks and balances, with the other two branches of government increasingly flexing their muscles. Whether the judicial branch on immigration or the legislative branch on healthcare and tax reform; the executive branch must eventually work in concert with others to implement lasting and significant change.

Few would argue, this president's clear preference is to take unilateral and decisive action and the laws allow him broad flexibility to do so on most trade matters. This is why NTMA and other manufacturers continue to work with the top levels of the administration, on Capitol Hill and with the media to educate policymakers and the public about the impact their decisions have on downstream manufacturers. Manufacturers should pay close attention to this Summer of Trade, which may fundamentally change the global supply chain for years to come.

*Omar Nashashibi is a founding partner at The Franklin Partnership, LLP, a bi-partisan government relations firm retained by the National Tooling and Machining Association in Washington, D.C.*



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## FINANCIAL MANAGERS ROUNDTABLE

### Philadelphia, PA

### Wednesday, September 13th, 2017

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St. Louis, MO



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- Human Resources
- Shop Floor Management
- Machining Technology

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## NTMA PROUDLY PRESENTS: LEIF BABIN AT THIS YEAR'S FALL CONFERENCE

NTMA is proud to announce that best-selling author and former US Navy commander, Leif Babin, will be our featured keynote speaker at the 2017 Fall Conference. Along with Jocko Willink, Babin co-authored the #1 New York Times Best Seller, "Extreme Ownership: How U.S. Navy SEALs Lead and Win." He is also the cofounder of Echelon Front LLC, a leadership consulting company. As a US Navy Seal officer, Leif deployed three times to Iraq earning a Silver Star, two Bronze Stars and a Purple Heart. He was a SEAL platoon commander in the Battle of Ramadi in 2006, taught leadership to the next generation of SEAL leaders

and served in senior management positions at a SEAL Team. He left active duty in 2011 and launched a leadership and management consulting company to teach others how to build, train and lead high-performance, winning teams.

Leif will make a keynote presentation, followed by a question and answer session. You'll have the opportunity to meet him at the PAC reception at the conference, and have him sign a copy of his new book.



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## MAKE PLANS NOW TO ATTEND

NTMA members are invited to attend two programs exclusively for manufacturing professionals this fall in Milwaukee, WI. Hosted by the Precision Metalforming Association, the Manufacturing Sales and Marketing Summit on September 26-27 will allow participants to gain insight on how to grow their business, learn from top-notch speakers and stay-up-to-date with the latest developments. On September 28, Sourcing Solutions brings together buyers and suppliers of fabricated metal parts, metal stampings, tooling and dies, assemblies and more. Save time and money by having several meetings all in one day, in one location. NTMA is an official partner of these events. Register using promotional code NTMA17PMA to receive member pricing.



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## ONE MEMBER'S STORY: SUCCESS WITH INTERNATIONAL BUSINESS

AN INTERVIEW WITH DAVID WEYRETER, VICE PRESIDENT, SALES & MARKETING, MAJOR TOOL & MACHINE



### WHAT IS YOUR SPECIALTY?

Major Tool & Machine Inc. (MTM) is a contract manufacturer that supports original equipment manufacturers (OEM) through their outsourcing of component parts and assemblies that require welding, machining and manufacturing engineering services. Competing in a worldwide market, our specialty is building complex assemblies to close tolerances from all types of special alloys. We serve our OEM customers throughout North America and Europe by offering a turnkey service delivering fully finished components and assemblies, either new or remanufactured.

### HOW LARGE IS YOUR OPERATION?

MTM has approximately 600,000 sq. ft. (~13.7 acres) of manufacturing

and dedicated warehouse space at our Indianapolis, Indiana Campus. This space is utilized across five facilities.

### WHO ARE YOUR CUSTOMERS?

MTM serves many customers throughout worldwide industries including power generation, aerospace, defense, oil & gas, national laboratories, nuclear, and heavy equipment

### PLEASE TALK ABOUT YOUR COMPANY'S HISTORY AND/OR BEGINNINGS.

MTM was founded in 1946 by Wilford Brown and Charlie Davis and started in Charlie's basement. Charlie's son, Emer Davis, took over the company in the 1960s. John Weyreter, Elmer's childhood friend, works with Elmer, becomes a partner, and then buys the company in the 1970s. Steve Weyreter joined the

company in the late 1980s and is now the CEO.

### WHAT WAS THE DRIVING FORCE FOR YOUR COMPANY'S EXPANSION INTO INTERNATIONAL BUSINESS?

Simply put: we constantly evaluate opportunities for diversification into markets where our core competency and expertise brings value. We do this with a strategic, measured approach so that we sustain a valued relationship with developed and developing customers alike.

### WHAT PARTS OF YOUR BUSINESS HAPPEN BEYOND U.S. BORDERS?

To date, nearly all of our international business originates from power generation. We continue to evaluate and explore broader international market segments.

SEE "SUCCESS" PAGE 12



"SUCCESS" CONTINUED

#### HOW LONG HAVE YOU BEEN DOING BUSINESS INTERNATIONALLY?

MTM has been doing business internationally since the 1970s.

#### HOW DID YOU BEGIN DOING BUSINESS WITH OTHER COUNTRIES?

Increase in demand and a need to establish diversified supply got our foot in the door. Our demonstrated willingness to apply significant resources and continued reinvestment in our people and facilities positioned MTM for the long term.

#### DID DOING BUSINESS ABROAD PRESENT CHALLENGES? HOW IS IT DIFFERENT THAN A COMPLETELY DOMESTIC OPERATION?

International business presents its own set of challenges. You must have a good understanding of cultural differences and how that may affect business relationships. Many European specifications and standards are different from the U.S., providing unique compliance and competitive challenges. Variability in exchange rates must be monitored closely.

#### HAVE YOU BEEN ABLE TO TAP INTO GOOD RESOURCES FOR DOING BUSINESS INTERNATIONALLY?

Over the years, we have been able to forge strong relationships with our international customers and suppliers, which in-turn have helped us conduct more business internationally.

#### WHAT ADVICE DO YOU HAVE FOR OTHER COMPANIES WHO ARE INTERESTED IN EXPANDING INTO GLOBAL OPERATIONS?

Walk before you run. Be sure to thoroughly understand your customer, market, culture, language, etc. before expanding into global markets.

#### IS THERE OTHER INFORMATION THAT YOU WOULD LIKE TO SHARE OR THAT YOU BELIEVE WILL BE HELPFUL TO OUR READERS?

MTM has a world-class manufacturing facility, offering state-of-the-art machining, fabrication, assembly, and finishing services. With our combination of world-class equipment, skilled employees, advanced technology, business & quality systems, engineering, project management expertise, and knowledge of international markets, MTM is positioned to be the MAXIMUM VALUE option for our customers.


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### INTERVIEWING TECHNIQUES AND SPOTTING A GOOD FIT

**Tuesday, September 12 - 2:00pm (EST)**

- This session will provide specific interviewing methods and approaches to identify candidates that would be a good fit for your company - both in terms of skills, and cultural fit.
- Attendees will go beyond the antiquated interview process to learn a framework that provides better outcomes through more targeted efforts up-front.

### ONBOARDING AND TRAINING & DEVELOPMENT PROGRAMS

**Tuesday, October 10 - 2:00pm (EST)**

*Presented by Stacey Schroeder*

- This session will detail the elements needed in a successful onboarding program, including who needs to be involved in the process for your organization.
- Attendees will also learn the features of a productive training and development program structure, as well as the roles that should be involved in that program.
- Participants will learn the basics of identifying skills or competency gaps in employees, and will hear numerous strategies for filling the gaps.

### PERFORMANCE MANAGEMENT PROCESS

**Tuesday, November 14 - 2:00pm (EST)**

*Presented by Stacey Schroeder*

- This session will explain a streamlined approach to managing performance that relies on four areas - results, operational excellence, relationship management, and leadership / team membership.
- Attendees will learn how to articulate "what good looks like" in the four areas, for the roles in their organizations.
- Participants will also receive guidance on how to communicate the process and intent to employees, as well as recommendations on how to conduct performance 'touch-points' throughout the year.

*To register, contact:*

*Kristen Hrusch at [khrusch@ntma.org](mailto:khrusch@ntma.org) or Brittany Belko at [bbelko@ntma.org](mailto:bbelko@ntma.org)*

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**EMO**  
Hannover  
18-23·9·2017

# EMO Executive Technology Tour Hannover, Germany SEPTEMBER 17-22, 2017

Pre-arranged booth visits to some of the world's technology leaders will take place Tuesday 9/19 - Thursday 9/21. Confirmed 2017 booths include (with more to come):

**GROB**

**BIG KAISER**

**+GF+**

**DMG MORI**

**LOKUMA**

**ZEISS**



**Mastercam**

**ZOLLER**  
expect great measures

**SCHUNK**



**WEILER**

**KENAMETAL**

**FANUC**

**WALTER**

## Trip Details

- All NTMA members are invited to participate in the EMO Executive Technology Tour in Hannover, Germany this September 17-22. Attendees should plan to arrive on September 17th and depart on September 22nd. A limited number of hotel rooms will be available for check-in on September 16th. These are available on a first come first served basis.
- Hotel accommodations are not included in the administrative fee and the cost of hotel accommodations will be the responsibility of the participant. We have reserved a limited number of hotel rooms in Hannover for our members and these are available on a first come first served basis.
  - A non-refundable deposit of \$2165 for single rooms (5 nights); Or \$2390 for check-in on September 16th (6 nights)
  - A non-refundable deposit of \$2495 for double rooms (5 nights); Or \$3080 for check-in on September 16th (6 nights)
- You will be responsible for making and paying for your own air transportation. Please do not make any travel arrangements until you are confirmed for the tour.

**Registration deadline: August 15th**

To register or for questions, contact Brittany Belko at [bbelko@ntma.org](mailto:bbelko@ntma.org) or 216-264-2848

## PRICING INFO:

### EMO Executive Technology Tour Administrative Fee

#### \$1,395 - NTMA Member Rate

This fee includes:

- EMO show pass
- World Expo pass
- Ground transportation in Hannover
- Daily breakfast buffet
- Five group dinners
- NTMA staff tour guide for booth visits

#### \$495 - NTMA Member Spouse Rate

This fee includes:

- Five group dinners



**HEIDENHAIN**



## TNC 640 – High-End Control for Milling and Turning Operations

The TNC 640 from HEIDENHAIN: for the first time, milling and turning are combined in one TNC. Now users can switch as desired between milling and turning—within the same NC program. Switchover is independent of the machine kinematics. It automatically takes the respective operating mode into account and without any additional action. This new simplicity is complemented by dialog-guided plain language programming, the optimized user interface, powerful programming aids as well as comprehensive cycle packets taken from amply field-proven HEIDENHAIN controls into the TNC 640.



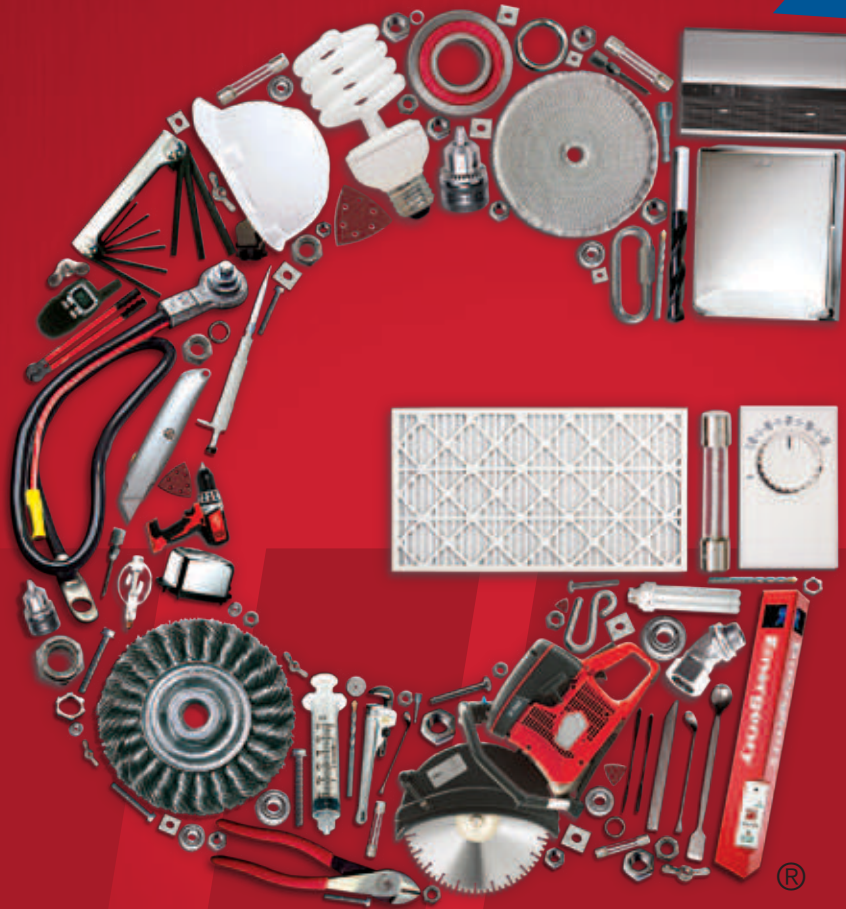
HEIDENHAIN CORPORATION Schaumburg IL, 60173-5337, USA Phone +1 847 490-1191 [www.heidenhain.us](http://www.heidenhain.us)

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# NTMA

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CATEGORY	RANGE OF PRODUCTS	
<b>Abrasives</b>	Blasting, Brushes & Wheel Kits, Sharpening Stones, Grinding Wheels, Deburring Tools, Polishing, Sanding Belts, Sandpaper, Tumblers	
<b>Adhesives, Sealants &amp; Tape</b>	Caulk, Concrete & Asphalt, Dispensing Guns, Glues & Cements, Putties, Tapes, Thread & Gasket Sealants	
<b>Cleaning &amp; Janitorial</b>	Cleaning Chemicals & Supplies, Dispensers, Deodorizers, Paper Products & Dispensers, Personal Care, Restroom Equipment, Trash & Recycling	
<b>Electrical</b>	Industrial Controls, Automation & Machine Safety, Motor Controls, Power Management, Voice & Data, Wire, Cable, Carrier Systems	
<b>Electronics, Appliances &amp; Batteries</b>	Dishwashers, Dryers, Ranges, Refrigerators, Freezers, Ice Dispensers, Communications, Electronics, Intercoms & Speakers	
<b>Fasteners</b>	Anchors, Bolts, Hardware, Hooks, Lanyards, Manuals, Measuring Equipment, Nails, Nuts, Retaining Rings, Rivets, Screws, Spacers, Staples, Washers	
<b>Fleet &amp; Vehicle Maintenance</b>	Auto Body Tools, Chemicals, Diagnostics, Automotive Exterior & Interior, Lifting Tools, Lubricants, Maintenance Tools, Towing, Storage	
<b>Furniture, Hospitality &amp; Food Service</b>	Flooring, Food Processing, Beds, Office & Outdoor Furniture, Guest Room Amenities, Uniforms, Laundry Supplies, Sports & Recreational Equipment	
<b>HVAC &amp; Refrigeration</b>	A/C Refrigeration, Air Filters, Air Treatment, Cooling Fans & Air Circulators, Heaters, HVAC Controls, Test Instruments, Replacement Parts, Ventilation Supplies	
<b>Hand Tools</b>	Benders, Clamps, Cutting Tools, Drywall Tools, Electrical Tools, Files, Hammers, Hand Saws, Pliers, Pullers, Punches, Screwdrivers, Sockets, Wrenches	
<b>Hardware</b>	Braces, Brackets, Door Hardware, Cabinet Hardware, Hooks, Springs, Window Hardware	
<b>Hydraulics</b>	Filtration, Hoses & Fittings, Motors, Seals, System Components, Tools, Oil Coolers, Pumps, Valves	
<b>Lab Supplies</b>	Testing Equipment, Chemicals, Consumables, Diagnostics, Filtration, Fume Hoods, Lab Ovens, Utensils, Labware, Soil Testing, Water Quality	
<b>Lighting</b>	Bulbs & Lamps, Ballasts, Flashlights, Exit & Emergency Lighting, Indoor & Outdoor Lighting	
<b>Lubrication</b>	Fittings & Hose Systems, Grease Guns, Greases, Lubricants, Oilers, Oils, Storage & Dispensing Systems	
<b>Machining</b>	Drilling Tools, Finishing Supplies, Indexable Tools, Fluids, Milling, Precision Measuring, Threading	

**Note:** Yellow highlight indicates key categories.

CATEGORY	RANGE OF PRODUCTS	
<b>Material Handling</b>	Cabinets, Carts & Trucks, Casters, Conveyors, Cranes, Dock Equipment, Dollies, Drum Handling, Forklifts, Hoists, Ladders, Packaging & Shipping, Pallet Jacks	
<b>Motors</b>	DC Motors, Definite-Purpose AC Motors, General-Purpose AC Motors, HVAC Motors, Motor Supplies, Pump Motors, Replacement Parts	
<b>Office Supplies</b>	Audio Visual Equipment, Binders, Clipboards, Easels, Calendars, File Folders, Ink & Toner, Cleaners, Office Machines, Office Paper & Notebooks, Staplers	
<b>Outdoor Equipment</b>	Cutting & Pruning Tools, Fencing, Generators, Hoses & Sprinkler Systems, Landscaping, Mowers & Trimmers, Pressure Washers, Rakes, Shovels, Snow & Ice Removal	
<b>Paint, Equipment &amp; Supplies</b>	Automotive Paints, Brushes & Rollers, Exterior & Interior Paints, Paint Mixers, Sprayers, Spray Paints, Primers	
<b>Plumbing</b>	Bathroom Hardware, Drains, Faucets, Filtration, Fixtures, Garbage Disposals, Gaskets, Insulation, Pipe, Tubing, Fittings, Valves, Sinks, Toilets, Water Heaters	
<b>Pneumatics</b>	Air Compressors, Compressed Air Treatment, Hose Clamps, Hose Reels, Pneumatic Hoses & Motors, Pneumatic Tools, Replacement Parts, Valves	
<b>Power Tools</b>	Cordless Tools, Demolition Tools, Finishing Tools, Heat Guns, Masonry, Pipe Threading, Drills, Saws, Shears, Power Tool Storage, Replacement Parts, Routers	
<b>Power Transmission</b>	Bearings, Belts, Brakes & Clutches, Bushings, Chain, Couplings, Gearing, Gearmotors, Speed Reducers, Sprockets, Tensioners, Vibrators	
<b>Pumps</b>	Aeration, Centrifugal Pumps, Chemical Pumps, Coolant Pumps, Drum & Barrel Pumps, Filtration, Fuel Pumps, Pool & Spa Pumps, Rotary Pumps	
<b>Raw Materials</b>	Alloy Steel, Aluminum, Brass, Bronze, Carbon Steel, Cast Iron, Ceramic, Copper, Cork, Felt, Fiberglass, Foam, Plastics, Rubber, Stainless Steel, Tin, Vinyl	
<b>Reference &amp; Learning Supplies</b>	Books, Classroom Supplies, Decoration, Games, Incentives, Toys	
<b>Safety</b>	Arc Flash, Eye Wash & Showers, Eye & Face Protection, Fall Protection, First Aid, Gloves, Lockout/Tagout, Signs, Spill Control, Traffic Safety, Workwear	
<b>Security</b>	Barriers & Crowd Control, Detectors, Key Control, Mailboxes, Padlocks, Safes, Security Alarms, Specialty Locks, Two-Way Radios, Video Surveillance	
<b>Test Instruments</b>	Air Movement, Automotive Testing, Data Recording, Electrical Power Testing, Indoor Air Quality, Pressure Measuring, Temperature & Humidity Measuring	
<b>Welding</b>	Arc Cutting & Gouging, Filler Metals, Gas Welding, MIG Welding, Plasma Cutting, Soldering, Spot Welding, Stick Welding, TIG Welding, Helmets	

For a full listing of products and accessories and to see your contract pricing, visit [Grainger.com](https://www.grainger.com)®

# WHY GRAINGER?

Time-Saving Solutions to Get the Products and Services You Need

This guide can be used to understand how to leverage the NTMA and Grainger national contract. It is designed to help you maximize NTMA sales opportunities and support local promotional efforts for the NTMA discount offered through Grainger.



## WHO IS GRAINGER?

Grainger is a business-to-business distributor of products used to help maintain, repair and operate facilities. Approximately 3 million businesses and institutions worldwide rely on Grainger for products such as safety supplies, ladders, motors and janitorial products, along with services like inventory management and technical support.

These customers represent a broad collection of industries including healthcare, manufacturing, government and hospitality. They place orders online, with mobile devices, over the phone and at local branches. More than 4,800 key manufacturers supply Grainger with 1.5 million products stocked in Grainger's nationwide network of distribution centers and branches.

## THE VALUE OF GRAINGER

Grainger serves to help customers take costs out of their operations while managing their facilities by focusing on four key areas:

- **How you purchase supplies:** It starts with purchasing less, buying only what you need, when you need it. Standardizing products and reducing suppliers also help improve the purchasing process.
- **How you manage inventory:** Grainger can help you determine what's the right amount of critical inventory items so you have what you need, when and where you need it, saving you money, time and space. Having the right supplies helps you maintain a productive environment, avoid costly downtime from stock-outs and reduce expensive overstock.

- **How you manage safety:** Grainger has the products, services and resources to help keep your people and facilities safe. Get the safety solutions you need to help reduce injuries, facilitate compliance, manage risk and increase productivity.
- **How you operate sustainably:** Grainger offers environmentally preferable solutions to help you manage your energy consumption, conserve water, reduce waste and improve air quality.

Driving costs out of these four areas helps Grainger customers put their resources toward managing and growing their business.

## ONLINE PURCHASING SOLUTIONS

From advanced purchasing options to mobile apps, count on Grainger for online solutions to help simplify your day. Whether you're in the office or on the go, take advantage of time-saving solutions to place orders, streamline your approval process and manage your spend. Just register on Grainger.com® to access your pricing, view your order history, save favorite items to your personal lists and check real-time product availability.

Our online solutions for your purchasing needs include:

- **Grainger.com®:** Easy-to-find products and fast checkout.
- **Order Management on Grainger.com®:** Fast track your order approvals and generate usage reports.
- **Mobile Apps:** Get the products and services you need no matter what device you use or where you go.
- **eProcurement Connections:** Manage your spend, help ensure procurement compliance and automate processes.

Visit [grainger.com/onlinepurchasing](http://grainger.com/onlinepurchasing) for more information.





# DRIVING WHAT'S NEXT.

Part complexity is increasing while lead-times are decreasing. The key to maintaining an advantage? Increasing your utilization. Register today for the Makino 2017 Die/Mold Expo to see how our machines, process solutions and automation can drive your business forward.

**MAKINO 2017  
DIE/MOLD EXPO.**  
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September 13-14  
Auburn Hills, MI 48326

# WHY SHOULD YOU JOIN US AT THE 2017 NTMA FALL CONFERENCE? WE'VE GOT SOME GREAT NEW EXPERIENCES PLANNED WITH YOU IN MIND.

BY TIFFANY BRYSON, NTMA

## IGNITE SESSIONS:

We have turned the Technology day on its head to SPARK an honest real conversation with industry leaders AND their peers.

## TOPICS:

- **Switch on the Ignition:** Where to Start with Your Culture?

- **Journey to Lean & 6S:** Beyond the Labeling, Philosophy and Method.

- **Machine Tool Technology:**

Learn About the Heart of Your Machine Tool.

- **Job Shops of the Future:** Present vs. Future – Expectations of the Job Shop

- **Top Shops:** What is a Top Shop and Why Should I Be One?

Each session will include NTMA members who will share their experience, best practices and IGNITE conversation with the audience! No more death by power point. Industry leaders, experts and our fellow NTMA members will sit lounge-style on the stage, allowing for a REAL conversation about customers' changing expectations for processes, technology and people.

The NTMA Technology Team and industry experts collaborated to bring the most relevant topics for open conversations. Every member, regardless of the size of their company, can be included in this open conversation to share challenges, stories and ask questions. Sessions will be led by Randy Harland from DMG MORI. Randy is charismatic, engaging and a perfect fit to led this new open chat format.

**Virtually Reality Experience:** Want to walk through an NTMA 'Top Shop' Winner? Well, now you can! Join our NTMA 'Top Shop' winner and Modern Machine Shop and take a virtual tour, ask questions and learn how YOU can be the next 'Top Shop'

## SPEAKERS

### OPENING KEYNOTE: LEIF BABIN

Leif Babin will kick things off on day one! Babin is co-author of the #1 New York Times

Best Seller "Extreme Ownership." Leif will bring powerful and unforgettable material that will empower, generate unity and provide takeaways with immediately applications. Leif will bring energy and guide our attendees to build high-performing, winning teams in any environment. You can read more about Babin here.

## GENERAL SESSIONS TOPICS

• **Cyber Security-**What you don't know could hurt you. Come join Tim Dimoff, CEO/President, SACS Consulting and

healthcare. Now, we introduce a NTMA Member-Only healthcare program. This program is designed to help you manage healthcare cost and reduce premiums. This is a must attend session.

• **The New Washington:** One Year Later-Hear directly from NTMA's lobbying firm, The Franklin Partnership, and take advantage of this insider's opportunity to learn what is really happening in Washington and how it affects your business.

### CLOSING KEYNOTE: GREG MORRIS, GE AVIATION

Star speaker at the NTMA Sales and Marketing Conference, Morris is one of the leaders of additive technology within GE Aviation. He joined GE Aviation in late 2012 with the acquisition of his two companies Morris Technologies and Rapid Quality Manufacturing. Greg will discuss and share his experience when his family made the big decision to invest in and adopt new technology.

### Business Development Tracks

- Financial Managers Track
- Employee Management and Benefits Track
- Sales and Marketing Track
- Workforce Development Track

## NETWORKING

Find new and exciting ways to network with peers, emerging leaders, industry experts and chapter leadership!

• **Cornhole Tournament-** Relax, support the NRL and get to know your fellow attendees.

• **Regiception-** After travel who doesn't want to unwind with a drink, see old friends and meet new?

• **5k-** Avid runner or walker, come join us for our second 5k!

• **Casino Night-** Support the GAAP and enjoy a night of drinks, dinner and socializing.

• **Conversation Lounges-** FANUC and Membership Savings Lounges

**Register early to take advantage of discounts and secure your place at our biggest event of the year—the 2017 Fall Conference.**



Investigative Service to safeguard your internet practices and protect your company from scams, viruses, identity loss and more. With the ever-changing cyber world, cyber security will continue to be an important topic to discuss, and learn more about to keep your company safe.

• **Healthcare:** NTMA Benefits Program Highlight-We listened, and we heard you. We know about the challenges of



**NTMA**  **2017**  
MADE BY AMERICAN FAMILIES •

## 2017 FALL CONFERENCE

October 24-27, 2017 • San Antonio, TX



### LEIF BABIN

- Former US Navy Commander and Best-Selling Author
- Co-author of the #1 New York Best Seller: "Extreme Ownership: How U.S. Navy SEALs Lead and Win,"
- Co-Founder of Echelon Front LLC

**BREAKING  
NEWS**

**Leif Babin Confirmed as Keynote Speaker**

#### TOP 5 REASONS TO ATTEND

**1 Network, Network, Network.**

**2** Learn about the NTMA Members Only Healthcare Program.  
An easy solution for a tough problem!

**3** Tech Issues? We've got IGNITE! Sessions. Learn what's coming down the pike and hear first-hand from members who are using these technologies.

**4** Get REAL IDEAS that work in the REAL WORLD. We take it beyond theory & give you solutions you can implement for success NOW.

**5** Make business connections that can streamline the way you get things done in your own company.

*Fall Conference offers great balance between conference time and social time.  
After all, networking is one of NTMA's greatest values.*

*~ Jared Veteto, President of Cogitic Corporation*

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# Speakers & General Sessions

## Featured Speaker



### Leif Babin

**What:** Opening Keynote

**Who:** Former Navy SEAL; Co-author of #1 New York Best Seller: "Extreme Ownership: How U.S. Navy SEALs Lead and Win"; Co-founder of Echelon Front LLC, a leadership consulting company

Co-author of the #1 New York Times best selling book, Extreme Ownership: How U.S. Navy SEALs Lead and Win. A former Navy SEAL officer, he deployed three times to Iraq earning a Silver Star, two Bronze Stars and a Purple Heart. Leif was a SEAL platoon commander in the Battle of Ramadi in 2006, taught leadership to the next generation of SEAL leaders and served in senior management positions at a SEAL Team. He left active duty in 2011 and launched a leadership and management consulting company, Echelon Front, to teach others how to build, train and lead high-performance, winning teams.



### Jim Dustin

**What:** NTMA Benefits Program Highlights

**Who:** Managing Director at NFP

We heard our members challenges with healthcare and we took action! Designed to help you manage healthcare costs and reduce premiums, hear about the efforts and progress to offer a benefits program through NTMA.

- Quantify cost savings potential
- Deliver stability for healthcare, dental and ancillary services
- Explore free HR technology

**NTMA Members Only Healthcare Program Introduced – A Must Attend!**



### Tim Dimoff

**What:** Basic Cybersecurity Pitfalls Prevention

**Who:** CEO/President, SACS Consulting and Investigative Services

#### **Protect Yourself from Online Threats**

Tim Dimoff's presentation discusses how to effectively address basic cybersecurity to safeguard your internet practices to protect you from scams, viruses, identity loss and more

- Understand the most common threats
- Learn the definitions of cybersecurity
- Identify the characteristics of money-wiring traps
- Discuss spyware, phishing and SMiShing
- Learn the best practices to protect your PC, email, social media, iCloud and more

# Speakers & General Sessions

## **John Guzik, Omar Nashashibi, & Paul Nathanson**

**What:** The New Washington: One Year Later

The election that shook the world will be nearly one year behind us during the NTMA Fall Conference and Washington is a very different place. Voters demanded change in the nation's capital and the new administration has certainly shaken up business as usual. This is your chance to hear directly from NTMA's lobbying firm, The Franklin Partnership, and Public Relations consultants at Bracewell, about what is really happening behind the scenes and beyond the spin of the media. Lawmakers continue to work towards tax reform and this year has already seen a flurry of activity on trade negotiations, tariff considerations and the potential for trade disputes with our partners. Meanwhile, the administration has made profound changes at the EPA and undone a number of harmful regulations. Don't miss this insider's opportunity to learn what is really happening in Washington and how it affects your business.



## **Brig. Gen. (ret) Marianne Watson**

**What:** Closing the Gap - Helping to Solve Workforce Development Issues of Today and Tomorrow

**Who:** Director of Outreach for Center for America (CFA) and Vice Chair of the Campaign Advisory Council of American Jobs for American Heroes (AJAH)

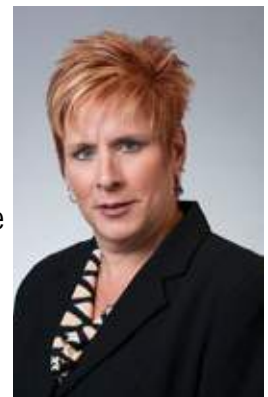
In her role as Director of Outreach and one of CFA's senior leaders, General Watson works with business associations, military organizations, nonprofits, state and federal agencies to develop ways to expand our collaboration in support of increased employment opportunities for veterans, National Guard members and Reservists. General Watson will be discussing Workforce Development Issues and the how to's and importance of hiring veterans.

## **Laurie Harbour**

**What:** Economic Update

**Who:** President and CEO of Harbour Results Inc.

Ms. Harbour works closely with manufacturing companies and their suppliers, analyzing their strengths and weaknesses, identifying existing gaps and risks and developing a tactical transformation to achieve sustainable improvements. In 2013, Harbour Results, Inc. published the 2013 Automotive Vendor Tooling Study and through their work in the automotive tooling industry, Laurie has become an expert in this area of manufacturing. Ms. Harbour is a regular speaker to companies and forums on numerous topics and she is regularly quoted in local and national publications as an experienced auto and operational analyst.



## **Greg Morris**

**What:** Closing Keynote

**Who:** Growth and Strategy Leader, GE Additive

**My journey from a family business to Fortune 100 acquisition...lessons lived and learned**

Greg Morris joined GE Aviation in late 2012 with the acquisition of his two companies Morris Technologies and Rapid Quality Manufacturing. In his initial roles, Greg was one of the leaders of additive technologies within GE Aviation. With the formation of GE Additive in late 2016, he has moved into the Growth and Strategy Leader role for the integration team. Greg has been involved in the Additive Manufacturing industry since 1994 and has written numerous articles and has presented at a variety of trade shows throughout the world.

# New this year!

# IGNITE! Sessions

## What: Ignite. Real. Honest. Conversation.

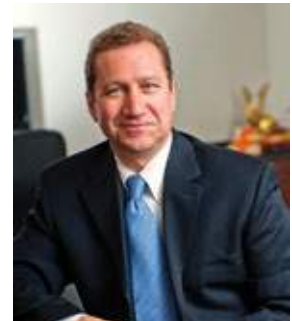
Come join an intimate conversation with industry leaders and your peers. Let's harness our collective power to spark ideas, share best practices and learn about customers' changing expectations for your processes, technologies and people.

Kindle the Discussion and Light Up Your Future: Engage, Tell Your Story, Bring Your Challenges.

1. Switch on the Ignition: Where to start with your Culture?
2. Journey to Lean & 6S: Beyond the Labeling, Philosophy and Method
3. Machine Tool Technology: Learn About the Heart of Your Machine Tool
4. Job Shops of the Future: Present vs. Future - Expectations of the Job Shop
5. Top Shops: What is a Top Shop and Why Should I Be One?

**Moderated by: Randy Harland, Regional Director of DMG MORI**

Randy Harland has been in the machine tool industry for 29 years. He has a master's degree in international management and has spent nine years living abroad in four countries. He enjoys facilitating group conversation about issues and trends in U.S. manufacturing.



## Knowledge Bars

### GRAB A DRINK & NEW IDEAS!

Take a break between sessions with some industry experts at our Knowledge Bars! These social stations are perfect for reenergizing with a beverage and snack while taking advantage of one of NTMA's greatest values – networking!

Presented by Industry Experts  
Heidenhain Corporation & Siemens

**SIEMENS**



**HEIDENHAIN**

*High impact, high energy, quick & useful takeaways!*



# NTMA 2017 Fall Conference Schedule

## Tuesday, October 24

- 1:00P-5:00P**     **Regiception - pg 6 sponsored by BIG KAISER**
- 4:30P-5:30P**     First Timer's Reception
- 7:00P**             **Cornhole Tournament - pg 6**  
*Supporting the NRL*

## Wednesday, October 25

- 7:30A-9:00A**     NTMF Board Meeting & Breakfast\*
- 7:30A-9:00A**     Education Team Meeting & Breakfast
- 7:30A-9:00A**     Chapter Executives Breakfast\*
- 7:30A-9:00A**     Continental Breakfast
- 8:00A-5:00P**     **Registration**
- 8:00A-5:00P**     Conversation Lounge - \*All day refreshment station - pg 6 sponsored by **FANUC**
- 8:00A-5:00P**     Exhibit Tables
- 9:00A-10:00A**     **General Membership Assembly – Awards & NTMA Update**
- 10:00A-10:30A**     **General Session 1: NTMA Benefit Program Highlights – pg 1**
- 10:30A-12:00P**     **General Session 2: Opening Keynote - Leif Babin – pg 1**
- 12:00P-1:30P**     Lunch Break
- GAT Team Meeting Lunch\*\*
- Emerging Leaders Roundtable & Lunch\*\*
- Budget & Finance Team Meeting & Lunch\*
- 1:30P-2:00P**     Knowledge Bars - pg 2
- 2:00P-3:00P**     **General Session 3: Cyber Security – pg 1**
- 3:00P-3:30P**     Knowledge Bars - pg 2
- 3:30P-5:00P**     **Board of Trustees Meeting**
- 5:00P-6:00P**     PAC Reception
- 6:30P-10:30P**     **Free Night on the Riverwalk**

**Rollout of  
NTMA Health  
Insurance  
Program**



## Thursday, October 26

- 6:30A**             NTMA Second Annual 5K - pg 6
- 8:00A-1:00P**     **Registration**
- 8:00A-5:00P**     Conversation Lounge - \*All day refreshment station - pg 6 sponsored by **FANUC**
- 8:00A-5:00P**     Exhibit Tables
- 8:00A-9:00A**     Nominating Team Meeting & Breakfast\*
- 8:00A-9:00A**     WOW! Breakfast sponsored by **PAULO**
- 9:00A-10:00A**     **General Session 4: The New Washington: One Year Later - pg 2**

**Meetings Marked \* are open to Team Members only**  
**Meetings Marked \*\* have limited lunches available and are first come first served**

*Schedule Subject to Change*

## Thursday, October 26 (continued)

10:15A-11:30A Business Development Tracks - pg 5

11:45A-1:00P Business Development Tracks

1:00P-5:00P **Information Center**

1:00P-1:30P **Lunch sponsored by** 

1:30P-5:00P **Optional Activity - Wine Tour - pg 8**

1:45P-4:30P **IGNITE! Sessions - pg 2**



1:45P-2:30P **IGNITE! Session 1**

2:45P-3:30P **IGNITE! Session 2**

3:45P-4:30P **IGNITE! Session 3**

1:45P-3:00P **Chapter Executives Roundtable\***

4:30P-5:30P **Emerging Leaders Session**

4:30P-5:30P **Hour of Power sponsored by** 

7:00P-10:00P **Casino Night - GAAF Fundraiser - pg 7**

10:15A-11:30A **Business Development Tracks**

Financial Managers Track

**Employee Management  
& Benefits Track**

Sales and Marketing Track

Workforce Development Track

11:45A-1:00P **Business Development Tracks**

Above Tracks Repeat

*"The NTMA conference is like going to business class for several days. You get to pick other business associates minds on all different topics to help your business."*

**Mike Kartsonis,**  
President of Dynamic Fabrication Inc.

## Friday, October 27

7:30A-9:00A Continental Breakfast

8:00A-9:00A Governance & Compliance Team Meeting & Breakfast\*

8:00A-9:00A **General Session 5: Brig Gen. (ret.) Marianne Watson – pg 2**

8:00A-12:00P **Information Center**

8:00A-4:00P Conversation Lounge - \*All day refreshment station - pg 6 sponsored by **FANUC**

8:00A-1:00P Exhibit Tables

8:00A-9:00A Continental Breakfast

8:00A-9:00A Governance & Compliance Team Meeting & Breakfast\*

8:30A-11:30A **Optional Activity - Alamo Trolley Tour - pg 8**

9:00A-10:45A **IGNITE! Sessions - pg 2**



9:00A-9:45A **IGNITE! Session 4**

10:00A-10:45A **IGNITE! Session 5**

10:45A-11:30A Knowledge Bars - pg 2

11:30A-1:00P Lunch Break

Past Chair & Spouses Lunch\*

Tech Team Roundtable Lunch\*\*

NTMA WD Lunch\*

1:00P-2:30P **Industry Roundtables**

2:30P-3:30P **General Session 6: Laurie Harbour – pg 2**

3:30P-4:30P **General Session 7: Closing Keynote - Greg Morris – pg 2**

6:00P-7:00P Bus to Enchanted Springs Ranch

7:00P-10:00P **Night at the Enchanted Springs Ranch - pg 7**



1:00P-2:30P **Industry Roundtables**

Aerospace

Tools, Dies & Molds

Medical

Precision Machining 1

Precision Machining 2



Meetings Marked \* are open to Team Members only • Meetings Marked \*\* have limited lunches available and are first come first served

*Schedule Subject to Change*



## NWPA CHAPTER AWARDS SCHOLARSHIPS

BY TAMI ADAMS, CHAPTER EXECUTIVE

All scholarship recipients



The NWPA NTMA Education Foundation board of directors is pleased to announce the 2017 scholarship winners! Since its inception in 1999, the Education Foundation has awarded over \$103,250 in scholarship donations and \$150,000 in general grant donations to help support the continuing education of those pursuing careers in the tooling and manufacturing industry. Eligible students must reside in Northwestern Pennsylvania, have graduated high school or equivalent, and be accepted into a secondary institution or training facility to further their education relating to the manufacturing industry.

On July 20, 2017, the Education Foundation awarded \$12,250 in scholarships to thirteen Northwestern Pennsylvania students. The recipients were awarded their scholarship certificates at the annual NWPA NTMA Golf Outing at The Country Club of Meadville. Partial proceeds from the annual outing benefit the Education Foundation.

### SCHOLARSHIPS WERE GRANTED AS FOLLOWS:

- **Trae Tudor**, Titusville, received the \$500 Ronald J. Cummings Scholarship\* and is attending Penn College of Technology for Automated Manufacturing

& Machining.

- **Alexander Marcum**, Meadville, received the Byham's Insurance Services Scholarship for \$750 and is attending Precision Manufacturing Institute (PMI) for Electro-Mechanical Technology.

- **Rebeca Aloisio**, Grove City, received the \$1,000 John J. Wehrle Memorial Scholarship and is attending Edinboro University for Software Design.

- **Hope Fiely**, Meadville, received the \$1,000 Larry D. Proper Memorial Scholarship and is attending Grove City College for Mechanical Engineering.

- **Keith Williams**, Titusville, received the Starlite Group Scholarship for \$1,000 and is attending Precision Manufacturing Institute (PMI) for Electro-Mechanical Technology.

- **Amber Gray**, Corry, received the Hagan Business Machines Scholarship for \$1,000 and is attending Penn State University for Mechanical Engineering.

- **Sabrina Toplovich**, Corry, received the Marquette Savings Bank Scholarship for \$1,000 and is attending Penn College of Technology for Design Engineering.

- **Noah Ongley**, Titusville, received \$1,000 from the Kenneth & Margaret Deane Scholarship\* and is attending Penn

State University for Electrical Engineering.

- **Nathaniel Huey**, Cochranton, received \$1,000 from the Kenneth & Margaret Deane Scholarship\* and is attending Rose-Hulman Institute of Technology for Mechanical Engineering.

- **Shelby Staudt**, Cochranton, received \$1,000 from the Gary M. Slezak Memorial Scholarship\* and is attending The University of Akron for Electrical Engineering.

- **Daniel Carlson**, Linesville, received \$1,000 from the Gary M. Slezak Memorial Scholarship\* and is attending Penn College of Technology for Welding.

- **Madison Klemm**, Cambridge Springs, received \$1,000 from the Gary M. Slezak Memorial Scholarship\* and is attending Cedarville University for Mechanical Engineering.

- **Nathan Love**, Cambridge Springs, received \$1,000 from the Gary M. Slezak Memorial Scholarship\* and is attending Penn State University for Mechanical Engineering.

\*The Ronald J. Cummings Memorial Scholarship, the Kenneth & Margaret Deane Scholarship, and the Gary M. Slezak Memorial Scholarship are permanent endowments managed by the Crawford





Clockwise starting from the top:

Ken & Margaret Deane Scholarship presented by Brian Deane, NuTec Tooling Systems.

John J. Wehrle Memorial Scholarship presented by Ashleigh & Margaret Wehrle, Area Tool and Manufacturing Inc.

Larry D. Proper Memorial Scholarship presented by Mark Proper, PROper Cutter.

Heritage Community Foundation.

Earlier in the year, the NWPA NTMA Education Foundation sponsored two \$500 awards for the Outstanding Precision Machining Student of the Year. **Haden Miller** was the recipient for the Crawford County Career & Technical Center and **Mike Firment** received the award at the Erie County Technical School.

The Foundation's existence relies on donations from the community. Proceeds are awarded locally for people interested in pursuing a career in the tooling & manufacturing industry.

#### NWPA NTMA EDUCATION FOUNDATION BOARD:

- President - Chris Minnis (Laser Tool & Plastics)
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Franklin Partners



The changes are happening hourly, daily, weekly. With so much in flux, it's hard to plan ahead. Omar will give you the long view about what is likely to happen over the next four years.

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Robotic Integration | Machine Monitoring  
State of the Economy  
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## MEET OUR NATIONAL ASSOCIATE: GF MACHINING SOLUTIONS



### *An interview with Karl Kleppek, Director of Business Development*



#### WHAT IS YOUR COMPANY SPECIALTY?

GF Machining Solutions specializes in providing high-speed and precision machine tools, automation solutions, machine tool consumables and customer services to the tool & die and mold-making industries and to manufacturers of precision components.

#### WHAT IS YOUR COMPANY HISTORY? WHEN/HOW DID YOU START?

The company Georg Fischer was founded in 1802 by Johann Conrad Fischer as a small craft business in the Mühlfental in Schaffhausen when 29-year old Johann Conrad Fischer (1773 - 1854) bought a water-driven mill and used the mill as a copper smelting plant and works for developing new alloys. Today, it is a global company operating company in three sectors: automotive engineering (GF Automotive), piping systems (GF Piping Systems), and machining solutions (GF Machining Solutions).

#### WHO ARE YOUR CLIENTS? WHAT TYPE OF WORK SHOULD A COMPANY CONTACT YOU ABOUT?

We work with aerospace, automotive, medical, ICT, job shops and everything in-between. If you need to improve your current processes, expand parts production or even take your next step in producing more accurate parts-- contact us. We are a complete solution provider and will be able to pair your process with the perfect technology that will help you differentiate yourself from your competition.

#### WHAT COMPANY ACCOMPLISHMENT ARE YOU MOST PROUD OF?

We are proud of the determination over 200 years to continually renew the organization which today continues to be reflected in the process of constant improvement in the Corporation's core competencies.

#### WHAT SETS YOUR COMPANY APART?

What sets us apart from other OEMs is the full range of premium machine tools that we offer. Our full lineup of EDMs,

vertical machining centers, laser texturing machines, additive machines, micro machines and tooling and automation helps us ensure we can be a complete solution provider.

#### WHAT IS YOUR COMPANY MOTTO?

We put customers first.

#### WHAT ELSE WOULD YOU LIKE OUR READERS TO KNOW?

For a century and a half, GF Machining Solutions has been an innovator and a source of strength to customers. Our history of technology leadership includes expansion into technologies that have spurred our customers' growth, and – with an eye to the future – we continue to innovate in order to advance the success of our customers in particular and the machine tool industry as a whole.



## HEIDENHAIN ANNOUNCES NEW PRESIDENT/MANAGING DIRECTOR

The Dr. Johannes HEIDENHAIN GmbH company is pleased to announce the appointment of David Doyle as president and managing director of HEIDENHAIN CORPORATION, effective July 1, 2017. David assumes full responsibility for the HEIDENHAIN CORPORATION customer-focused operations for the U.S., Canada and Mexico. This change continues the succession plan for Mr. Rick Korte, present CEO of HEIDENHAIN CORPORATION.

"I am happy to announce the next phase of the succession plan for our North American operations, with the promotion of David Doyle to president and managing director. I have the utmost confidence in David and trust he will continue to grow our business and support our customers with world-class service in all areas," remarked Rick Korte, CEO of HEIDENHAIN CORPORATION.

"In his new role, David will steer the realization of the future vision for our U.S.-based operations, including initiatives to drive business growth and enhance our customers' experience. David brings more than twenty-five years of experience in international capital equipment business and technical support management. He has rapidly established his leadership influence with our U.S. organization," said Ralf Moog-Oberkircher, Head of Global Sales for the Dr. Johannes HEIDENHAIN GmbH group.

Dr. Johannes HEIDENHAIN GmbH, headquartered in Traunreut, Germany, develops and supports motion control feedback solutions for the machine tool, semiconductor, electronics assembly and test, metrology, automation, medical, energy, biotechnology and other global markets. [www.heidenhain.com](http://www.heidenhain.com)

HEIDENHAIN CORPORATION,



headquartered in Schaumburg, IL, and San Jose, CA, has been serving the U.S. industry for over 50 years.

[www.heidenhain.us](http://www.heidenhain.us)



# HEIDENHAIN



# FIVE IMPORTANT REASONS YOU SHOULD BE USING A FREIGHT BROKER

BY JERRY SPELIC, PARTNERSHIP

It is a very common question for shippers: "Should I use a freight broker?" Before we list five important reasons why you should use a freight broker, we answer the question, "What is a freight broker?" A broker arranges freight shipping between a carrier and a shipper. In exchange, the broker receives a small commission for facilitating the transaction. That's how freight brokers make money.

So, why use a freight broker? Efficiency. A freight broker adds value and flexibility to your supply chain and that becomes your competitive advantage. Focusing all of your energy on what you do best gives you an edge and helps you stay competitive. Unless what you do best is shipping, you should consider using a freight broker to manage your shipping and logistics functions.

Big companies got big because they focused on what they did best. In fact, 85 percent of Fortune 500 companies use third-party logistics providers like freight brokers. That's not a coincidence; it's a cause-and-effect relationship. Every dollar saved on shipping goes right to the bottom line.

Consider these five important advantages of using a freight broker:

Save time, save resources, save money. With a freight broker as a strategic partner, you have the benefit of your own dedicated shipping department without the expense of your own dedicated shipping department.

You also don't need to spend time on invoices, audits and training. Using a freight broker lets you focus on your business.

We could end the list right here. But wait, there are more benefits of using a freight broker!

More flexibility, more scalability. A



freight broker partner is able to provide you more or less capacity as your business goes through its natural cycles. So, there's no need to stress over seasonality, irregular spikes or sudden troughs in your business.

Shipping expertise. What freight brokers do best is shipping, and working with one allows you access to their knowledge of best practices and real-world experience. It also allows you to access the latest technology for shipping reporting and visibility into your logistics.

It's not just what you know, it's who

you know. Freight broker partners have expansive carrier networks that provide many advantages over an in-house shipping department. They have buying power and can provide volume discounts, lowering your shipping expenses. They also can provide access to capacity that otherwise would be unavailable, or very costly, to an internal shipping department.

It's a partnership. Your freight broker works for you and will put your interests first, because when you succeed, they succeed and when your business grows, so does theirs. That's the definition of a partnership: benefits for both parties.

For more information about the benefits of using a freight broker, contact NTMA Affinity Partner Partnership at 800-599-2902 or use this link: [contact us](#). See how Partnership can help you ship

smarter so you can stay competitive. You might also want to subscribe to our freight broker blog, The Partnership Connection, to learn more about how to use freight brokers. Just type your email address in the box in the upper right part of this page and hit "subscribe!"



**Partner  
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Your Shipping Connection

## DATA FROM A MACHINE-MONITORING SYSTEM CAN HELP HUMAN RESOURCE MANAGEMENT

CONTRIBUTED BY DOMENIC LANZILLOTTA, EDITING BY MARK ALBERT

As a supplier of machine monitoring software, Refresh Your Memory, Inc. finds that customers are primarily pre-occupied with concerns over machine performance and utilization. This is why overall equipment effectiveness (OEE) is a popular measure of shopfloor activities.

Most dashboards showing production results include OEE ratings, at least as an option.

However, the productivity (and profitability) of a machining operation has as much to do with human behavior, especially how well machine operators are

performing their duties to keep machines running and jobs on schedule.

The data from some machine monitoring systems can also help a machining company enhance the contribution of shop floor personnel in the productivity

CONTINUED ON NEXT PAGE

equation. In fact, this data can be a valuable tool for many human resource (HR) functions such as conducting employee performance reviews, managing incentive programs, setting goals and identifying training needs. Just as data gathered by a computer network from connected machines can lead to better decisions about a manufacturing process when that data is analyzed and reported effectively, this data can also lead to better decisions about engaging and motivating a workforce. Implementing a machine monitoring system makes performance measurable, objective and visible. The same characteristics apply to the study of operator performance—its basis can now be measurable, objective and visible.

S. Scott Shortess, the COO of Advanced Machining, a 55-person job shop in Owasso, Oklahoma, is a FactoryWiz Monitoring user whose experiences in this area are particularly telling.

*"At first, we were interested in machine monitoring because we tended to respond to production constraints by simply buying more equipment, but our profit picture wasn't getting any better," he says. "We needed more efficiency, not more machines. With the monitoring system in place, we could see where downtime, planned or unplanned, was really hurting us. We found kinks in our workflow*

*and started straightening them out. We could also see how much operator behavior had to do with machine output."*

This led Advanced Machining to take a two-pronged approach to making effective use of the data from machine monitoring. One was a renewed focus on process improvements, especially as a result of more precisely targeted lean manufacturing techniques such as setup reduction and "next job readiness." The other prong was making the shop's profit-sharing incentive program more effective. Shortess says that data-driven performance reviews and corresponding payout policies were a big part of this effort. Here are some additional observations and advice he has to offer:

- Build benchmarks and set goals around attainable improvements linked to customer, company and personal benefits. Your good decisions help everyone and maximize rewards.
- Foster dialogue and keep it positive. How can we work together to help you do better where the facts show room for improvement?
- Use data to ask the right questions and get the real reasons for shortcomings. Good data protects everyone and defuses the blame game.
- Let shopfloor visibility generate some

healthy competition among employees. Keeping score should reflect that everybody can win.

- Shops should think about the HR benefit when evaluating machine monitoring, but it is okay to focus on improving OEE first. Just don't forget about it! And keep HR people in the loop.

- Don't let data-driven incentive programs get stale. Review goals and adjust the performance targets often. Your machine-monitoring supplier should be able to help you tweak reports for this.

Shortess also acknowledges that a system set up to help employees succeed doesn't guarantee that all of them will. "Letting an employee go is one of the toughest decisions any manager has to make. Data from a monitoring system helps us spot that things are not going in the right direction, guides us in efforts to turn things around, but also sets an endpoint if it comes to that," he says.

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## NTMA MEMBERS WORKING TOGETHER FOR MANUFACTURING SUCCESS

When it came time for Hydro-Thermal, headquartered in Waukesha, WI to replace an outdated machine, the decision was whether to add to their fleet of CNC machines or buy another German-built WEILER precision lathe. Recently awarded the Wisconsin Manufacturer of the Year Award for Medium-sized companies, Hydro-Thermal is the global leader in the development and manufacturing of direct steam injection heaters, known as Hydroheaters TM. The machines they purchase need to grow with them and allow for innovative ideas.

Rigidity, flexibility and consistency in output were the “must haves” for the next machine. Additionally, Hydro-Thermal

wanted a machine that would be familiar to their existing machinists and support that type of work.

Hydro-Thermal was first introduced to the WEILER product from the distributor, Weller Machinery. Mike Weller, a true partner to Hydro-Thermal, saw the need for a machine that was easy to operate, flexible, and above all, precise. Hydro-Thermal was machining parts with 20-25” diameters and a HRC of 60. “The E70 was the perfect machine for Hydro-Thermal’s operation. The size and type of their parts fit perfectly to the strength of the WEILER lathe. They are built to last and well worth the investment. Lastly, Hydro-Thermal produces a

large variety of parts in very low quantities with ever changing schedules; to be able to rapidly go from one job to the next was huge!” stated Weller. Each E-machine is capable of manual or programmable modes; has a proven performance record and is simple to learn and program.

Jim Zaiser, Hydro-Thermal’s president and CEO, along with his evaluation team, decided to purchase their second WEILER, the E-50/165 x 2M Big Bore and it was installed in early January 2017. The E-50 compliments the existing E-70, purchased from Weller Machinery in 2012. The selling point: simplicity and rigidity of the German-engineered lathes.

SEE “HYDRO-THERMAL” PAGE 32



## "HYDRO-THERMAL" CONTINUED

"Quality is paramount to the function of our valves. When I was introduced to the machine, I wanted to see it from the base up. I visited the plant in Germany and saw my machine being assembled with the precision I expect. With a personal tour from Mr. Weller, I even incorporated new ideas from their plant into ours. The machine is world-class and a wonderful investment."

The consistency of the control interface was a strong benefit. Hydro-Thermal installed the E-50 near the E-70 so the same machinist can utilize both machines. While the E-70 is running a longer program cycle, the machinist sets up and cuts a different part on the E-50. The E-50 also affords Hydro-Thermal the ability to reassign work to a better suited machine. "We had a variety of lathe equipment trying to machine parts they just were not designed to handle. The WEILER E-50 allows us to re-delegate work to a better suited machine.

We also purchased the bigger bore so we could properly workhold entire parts and improve the machined surface finishes. Our observation is the E-50 can machine our smaller parts 40 percent more effectively than on a manual lathe or on a lighter duty lathe", stated Mike Johnson, Hydro-Thermal Manufacturing Engineering Manager.

In the short time that the E-50 has been installed, they are already seeing its value. The E-50 three-jaw bar chuck is better suited for Hydro-Thermal's smaller parts and this has freed up time on some manual machines and semi-automatic machines. The E-70 is able to machine longer and bigger parts more efficiently so the smaller parts that were on the E-70 have been transferred to the E-50 HD, allowing the E-70 to focus on the bigger parts that require greater accuracy and longer cycle times. The workload on the E-50 HD will continue to grow as Hydro-Thermal's machining repeatability and

consistency continues to excel.

It was team work from the start. Weller Machinery and WEILER worked diligently to design and configure the right options for Hydro-Thermal. The standard Multi Suisse tool post was replaced with a four-way quick change tool post 'Parat' (which indexes and repeats to 0.0002", eliminating constant measuring), also provided and imported by Weller Machinery. Aggressive negotiations ensued and the deal was struck. When asked if Hydro-Thermal would buy a third WEILER, Mike Johnson replied, "Absolutely!"

For additional information, email [info@weilerusa.com](mailto:info@weilerusa.com)

Visit WEILER at [www.weilerusa.com](http://www.weilerusa.com) and Weller Machinery at [www.wellerusa.com](http://www.wellerusa.com)



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## EMERGING LEADER: MEET SCOTT SCHAEFER, RB TOOL & MFG CO.

### HOW DID YOU FIRST GET INTO THE INDUSTRY?

My Dad bought a machine shop when I was 13 years old and I worked in the shop during the summers during high school. I went to college and came back to the family businesses when my father purchased RB Tool.

### WHO IS RB TOOL AND A LITTLE BACKGROUND ON THE COMPANY?

RB Tool is a job shop that is a build-to-print manufacturer specializing in special machine assemblies. The business was started by my Great Uncle in 1957 and my Dad purchased the company from him in 1995. We have milling, turning, EDM, fabrication, painting, and assembly capabilities.

### WHAT IS YOUR ROLE WITH YOUR COMPANY?

I am the sales and marketing manager for the EDM division, but being in a family business I wear a lot of hats.

### WHAT DO YOU LIKE BEST ABOUT THE INDUSTRY?

I love seeing the intricate parts that we can make.

### HOW DID YOU GET INVOLVED WITH THE NTMA EMERGING LEADERS

I got involved with the Emerging Leaders after going to the Emerging Leaders Conference in Cleveland and meeting people that had similar goals and aspirations in manufacturing as myself.

### WHAT DO YOU LIKE BEST ABOUT THE EMERGING LEADERS GROUP?

The best thing about the EL group is it is made up of the next generation of leaders and we can converse about different issues or problems that they are also facing.

### WHY DO YOU THINK THE EMERGING LEADERS GROUP IS IMPORTANT TO THE FUTURE OF YOUR INDUSTRY?

Emerging Leaders is very important because we are losing a lot of people and knowledge in the coming years in manufacturing and need to get younger people involved in the industry.

### SOME FUN INFORMATION ABOUT SCOTT?

I played a couple of years of professional soccer, love riding my motorcycle and have three boys.



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# MANUFACTURING STILL MATTERS: THE NEEDLE IS MOVING THE RIGHT WAY

BY BILL PADNOS, NTMA DIRECTOR OF YOUTH ENGAGEMENT

The survey results are out from Deloitte and The Manufacturing Institute's sixth U.S. public opinion of manufacturing study. This survey was conducted online during December 2016, and Deloitte polled a nationally representative sample of 1,030 Americans.

Based on their analysis of the survey results, Deloitte has put together the top ten perceptions Americans have on the US manufacturing industry.

1. The U.S. public overwhelmingly believes manufacturing is vital with more than eight in 10 Americans indicating the importance of the U.S. manufacturing industry in maintaining the 'American Way of Life.'

2. America needs to invest more in, and further foster, manufacturing.

3. A silver lining—While current overall perception of U.S. manufacturing is mixed, a few segments (American parents, Gen X, and those familiar with manufacturing) rank a manufacturing facility at the highest position for creating new jobs.

4. *While there is still plenty of room to grow, the 2017 perception about the future of manufacturing is on the rise and many believe that the U.S. manufacturing industry is high-tech, can compete globally and will grow stronger in the long term, compared to that in 2014.*

5. Job benefits and good pay are the two most sought after factors that Americans look for in a job over job stability and security.

6. Americans are apprehensive about a career in manufacturing because they are worried about job security and stability, a weak career path and poor pay.

7. *Americans with high manufacturing familiarity are nearly twice as likely to*

*encourage their children to pursue a manufacturing career, than non-parents and those with low familiarity.*

8. Americans have a strong and positive perception about future manufacturing jobs and about eight in 10 Americans believe that manufacturing jobs in the future will be more innovative requiring higher technical skills, creativity and problem solving capabilities while being cleaner and safer due to automation and reduced manual labor.

9. Americans have expressed interest for programs that focus on hands-on skills development like internships, apprenticeships and certification on manufacturing skills as possible ways to attract talent to manufacturing.

10. A dichotomy exists between what the industry needs and what technologies the public is most aware of. When it comes to critical advanced technologies in manufacturing, U.S. executives ranking predictive analytics and advanced materials vital to future manufacturing competitiveness but the general public is not largely aware of these strategically important technologies.

I'd like to draw your attention to the points in bold above. First, the perception of manufacturing is improving. In 2014, only 43 percent of the survey respondents indicated that manufacturing was high-tech. Today, 64 percent believe that manufacturing is high-tech. Now, 55 percent of respondents indicated that U.S. manufacturing can compete globally while in 2014 the number was 49 percent. Will manufacturing continue to grow? Forty-one percent agree in 2017, compared to 29 percent in 2014.

What does this mean? All of the marketing and promotional work of the Manufacturing Institute and individual manu-

facturing companies is working. Public perception of manufacturing careers is changing to the positive. This is a very good sign that all of the hard work in manufacturing workforce development over the past couple of years is making a difference in changing what the U.S. public thinks, but

has it really made a difference in closing the skills gap?

This is why it is critical for all of us to examine the seventh perception about manufacturing:

*American parents and Americans with high manufacturing familiarity are nearly twice as likely to en-*

## Deloitte.

### Manufacturing matters: Top 10 US p

**1** Americans believe **manufacturing is vital**



**83%**  
Important to  
economic prosperity



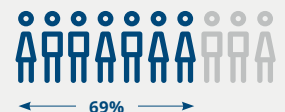
**81%**  
Important to  
Americans' standard  
of living

**2** 76% of Americans believe the **US should further invest in manufacturing...**



← 76% →

and 69% believe it should be a national priority



← 69% →

**6** **One-third of Americans would not encourage their children to pursue a manufacturing career**



because...



**77%**  
Worried about  
security and stability

**70%**  
Not a strong career path

**64%**  
Does not pay enough

**7** Industry familiarity **increases positive perception**



Those familiar with  
manufacturing are nearly

**2X as likely**  
to encourage children to pursue  
a manufacturing career

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*courage their children to pursue a manufacturing career, than non-parents and those with low familiarity.*

In order to fully start closing the skills gap, it is up to each NTMA member to personally familiarize their community with their facility and operations. Look at the numbers – you have a better opportunity to recruit new talent if the student and the parents understand the benefits of working for you.

The survey points out that “Job benefits and a good pay are the two most sought-after factors that Americans look for in a job over job stability and security.” However, the survey states that “Americans are apprehensive about a career in manufacturing because they are worried about job security and stability, a weak career path and poor pay.” Yet, the facts are that manufacturing jobs pay well, offer great benefits and there is an abundant need

for skilled workers. Add to those facts that manufacturers are more likely to pay for continuing education, and you have a win – win – win – win situation that the American public still does not fully believe unless they are familiar with what happens in your facility.

Take advantage of this amazing opportunity to ensure that your company is on a pathway to a secure and profitable future. Reach out to the local schools

in your area and engage the students directly. Invite them to tour your facility with their parents and hear from you about your positive experiences as a manufacturer. This can not be a one and done attempt. You need to utilize programs like the NRL that are project-based STEM learning experiences so the students understand the manufacturing process and gain the technical and critical think-  
SEE "SURVEY" PAGE 36



## Public opinions about the manufacturing industry

### 3 Americans support manufacturing job creation



#### Ranked #1

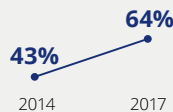
by parents of school age children, Gen X, and those familiar with the industry

### 4 Perception of manufacturing is improving

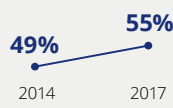
#### Manufacturing...



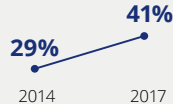
Is high tech



Can compete globally



Will continue to grow



### 5 Americans value benefits, pay, and interesting work



87%  
Good benefits



85%  
Good pay



84%  
Interesting and rewarding work

### 8 Americans have a positive perception about future manufacturing jobs

They believe manufacturing jobs will...

88%

Require technical skills and expertise

81%

Be cleaner and safer

77%

Will require less manual labor

77%

Will be more innovating

74%

Will be more creative

### 9 Americans indicate targeted programs would increase interest in manufacturing careers



67%  
Internships, work study, or apprenticeship



62%  
Certification or degree programs for manufacturing skills training

### 10 Opportunity for manufacturers to build excitement about advanced manufacturing technologies and careers



While US executives rank **predictive analytics** and **advanced materials** vital to future manufacturing competitiveness, the general public is largely not aware of these strategically important technologies.

## Look again.™

**The manufacturing industry provides one of the most stable and secure careers.** The average tenure of workers in manufacturing jobs is the highest among all private sector industries at 9.1 years (2016). At the same time, manufacturing jobs have one of the lowest employee turnover (2.3 percent) and quits rate (1.2 percent) in the last five years (2011–2016), among all private-sector industries. (Source: Bureau of Labor Statistics)

**Manufacturing jobs pay well.** In 2015, the average manufacturing worker in the United States earned \$81,289 annually, including pay and benefits, compared to \$63,830 earned by an average worker in other industries. (Source: Bureau of Economic Analysis and Bureau of Labor Statistics)

**US manufacturing jobs offer health benefits to its employees.** US manufacturers have one of the highest percentage of workers (92 percent in 2015) who are eligible for health benefits provided by their employer. (Source: Kaiser Family Foundation)

**An abundance of skilled workers are needed.** Over the next decade, over 3.5 million manufacturing jobs will likely be needed, in part due to retirement of baby boomers and strength of the economy. (Source: Deloitte and The Manufacturing Institute, Skills gap in US manufacturing)

"SURVEY" CONTINUED

ing skills you need in your future employees.

Just like a science fair at the end of the school year, invite the parents to come back to see what their child has learned about manufacturing. A parent who is not familiar with machining will have no idea what it means to be a precision machinist, so why would they encourage their son or daughter to pursue that career pathway? However, if they are able to see their child actually working on a machine in your facility and they show their parents the parts of their bot that they created – we have a whole new ball game.

For more information on how your company can engage manufacturing's next generation, contact Bill Padnos, NTMA's director of youth engagement at [bpadnos@ntma.org](mailto:bpadnos@ntma.org) or check out the NRL web site at [www.gonrl.org](http://www.gonrl.org).



## MFG DAY ARE YOU ACTIVELY PREPARING FOR THE FUTURE?



### INVEST TODAY IN THE FUTURE OF MANUFACTURING

Over the next decade nearly 3.5 million manufacturing jobs will be available and 2 million will go unfilled due to the current skills gap. The inability to meet labor demands continues to negatively impact companies like yours, and the entire nation. Each of us needs to take action!

#### WHAT IS MANUFACTURING DAY?

Manufacturing Day<sup>sm</sup> is a celebration of modern manufacturing designed to inspire the next generation. Manufacturing Day is always the first Friday in October — this year it's Oct 6, 2017.

While Manufacturing Day is

officially Oct. 6, any event happening in September or October can be tagged as part of MFG Day! You can plan your event on the date that works best for your employees, your local schools, and your community. No matter the date, it's critical that you register your event on both the NTMA MFG Day webpage, and the overall MFG Day website (a link to this is provided on the NTMA's website). You can market your event as public or invitation-only.

#### JOIN YOUR PEERS AND MAKE AN IMPACT

The NTMA has been a proud sponsor of MFG Day for 4 years, and 49 NTMA

member companies in 20 states opened their doors to students, families, and their communities in 2016 alone!

Hosting an event is simple, and the rewards are bountiful. Check out: <http://www.mfgday.com/resources/2016-interactive-dashboard> for an interactive dashboard showing real outcomes from students, educators, and employers that participated in MFG Day events.

We are in the process of developing a page on our website that is dedicated to MFG Day resources, videos, templates, and more! Please check out <http://gonrl.org/mfg-day-2017/> to get a sneak peek of what's



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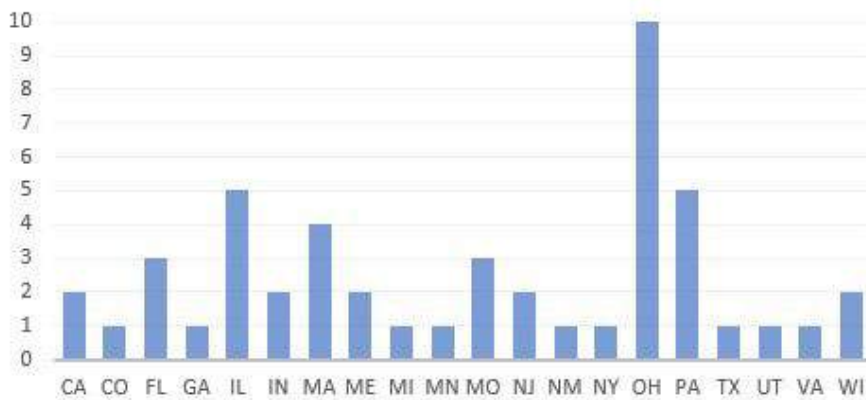
Heat Treating

Brazing

Metal Finishing



## Number of 2016 MFG Day events hosted by NTMA members



## MANUFACTURING DAY

FRIDAY, OCTOBER 6, 2017

### SURVEY RESULTS FROM 2016'S MFG DAY SHOWED:

64% of student attendees were more motivated to pursue a career in manufacturing after attending an MFG Day event

88% of educator attendees were more convinced that manufacturing provides interesting and rewarding careers for young people

71% of student attendees are likely to tell friends and family about modern manufacturing after attending an MFG Day event

Source: Deloitte's Manufacturing Day 2016 at a glance data (2016)



**NTMA Members:** Promote manufacturing jobs by opening your doors to parents, students, teachers and elected officials on MFG Day! Click here for tips.



#MFGDay2017  
www.mfgday.com

already out there.

Please plan on hosting an event at your company for MFG Day. It's up to all of us to change the perception of manufacturing, and get the next generations of employees, their families, their schools, and their communities interested and engaged in the powerhouse of the American economy.

Contact Matt Gilmore at [mgilmore@ntma.org](mailto:mgilmore@ntma.org) or Stacey Schroeder at [sschroeder@ntma.org](mailto:sschroeder@ntma.org) for more information.





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**For more information on a program with us logon to the NTMA website for further information to register and gain online access.**

Contact Christie at (585)486.8724.



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