

THE RECORD

APRIL 2017

PUBLISHED BY THE NATIONAL TOOLING AND MACHINING ASSOCIATION

THE FUTURE STARTS NOW.

Prepare your business for
all that tomorrow holds.



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WORKING FOR YOUR FUTURE. - p.20

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PROGRAM TOPICS



- Additive Manufacturing
 - Best Opportunities Now and in the Future
 - When to Invest
- Making Money with Data
- Marketing Issues Roundtable
- What To Do Next, Marketing or Sales?



MARKET SEGMENTS

- Choosing Segments
- Fitting Into the “Crowd” of Others
- How to Enter a Market – What That Means
- Meeting Key People in the Field
- Meeting Market Requirements and Needs
- Price, Value and Wants in Each Sector
- Wearing the Camouflage of the Segment



SEGMENT SESSIONS

- Aircraft
- Auto & Truck
- Construction/Agriculture
- Die & Mold
- Fluid Power
- International Opportunity
- Medical Devices and Equipment



WHO YOU’LL HEAR FROM

- Carnegie Mellon Robotics Institute
- Fanuc Robotics
- Francois Gau
- GE
- Hamill Manufacturing
- Kennametal
- Makino
- Mastercam
- Memex
- National Fluid Power Association
- NRL
- Oberg Industries
- Strategic Ink
- Walter
- Xometry



- *Tour the GE facility*
- *Opportunity and investment considerations in additive MFG*

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1160 Thorn Run Road | Moon Township, PA 15108

Room rate: \$122.00 per night | Cut off date May 17

Reference “National Tooling and Machining Association”



Register at:

www.ntma.org

NTMA Members: \$500

Non-Members: \$650

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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

April 24-26

Emerging Leaders Conference, Denver, CO

May 1-3

Legislative Conference, Washington, DC

May 8-13

European Tech Tour

May 10

Financial Managers' Roundtable, Los Angeles, CA

May 11

How To Be A Top Shop Seminar, Los Angeles, CA

May 19-21

National Robotics League Competition, California, PA

June 7-9

Sales & Marketing Conference, Pittsburgh, PA

June 14

Workforce Development Roundtable, Chicago, IL

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 25-27

Fall Conference, San Antonio, TX

November 9

Plant Managers' Roundtable, Detroit, MI





PRESIDENT'S UPDATE

DAVE TILSTONE / NTMA PRESIDENT

NTMA  2017
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IT'S A GOOD TIME TO BE IN MANUFACTURING!

In this edition of The Record, we are highlighting The Future of Manufacturing in the United States. Having just attended a very successful MFG Meeting at Amelia Island, I cannot remember when spirits were so high and so many NTMA members were so positive about their businesses and U.S. manufacturing. It's not really a surprise given all the good news from forecasting agencies and economists. Now is the time for you and your business to set the stage for growth. If you haven't felt the momentum either through quoting activity or orders entered, get prepared. I have not seen so many positive leading indicators since 2010 as we emerged from the Great Recession. **It is a good time to be in manufacturing!**



Many of you follow the Purchasing Manager's Index (PMI) published each month by ISM so I'll start there. In February, the PMI index was 57.7 percent (a figure above 50 percent is indicative of expansion) and represented an increase of 1.7 percentage points. The new orders index registered 65.1 percent, an increase

of 4.7 percentage points above January. Of the 18 manufacturing industries ISM tracks, 17 reported growth in February.

As I noted in one of my earlier updates, I attended the AMT Global Forecasting and Marketing Conference in October. All of the economists were predicting a more stable year with real growth between 1 and 3 percent. A February update of these forecasts noted that 2017 is poised for a strong rebound expected to last into 2018. The moderator noted that he had not seen so many positive key indicators since 2010. ITR Economics also published the ITR Leading Indicator. It points to a rising indicator, suggesting that the Industrial Production 12/12, a benchmark for the US economy, is likely to rise into at least late 2017.

All of this is good news, and as I've traveled to different chapters and visited with members, optimism is high with backlogs growing. Some members have been swamped with orders and falling behind on deliveries as a result. If you are experiencing this optimism or increases in your business, consider making changes to your marketing and sales strategy and plans.

One way to improve your own business is to learn from experts and network with other NTMA members. The upcoming sales and marketing conference is scheduled for June 7 through June 9 in Pittsburgh. Plan to join us for the **NTMA Best Prospects for Growth Workshop**.

The first day of the workshop will be held at the new \$40 million GE CATA (Center for Additive Technology Advancement) with a tour and brief overview of GE's commit-

ment to additive manufacturing (AM). GE has stated that 25 percent of the products they manufacture will be impacted by AM by 2020. The focus of the workshop, however, is marketing and sales for the small to medium size business owner. Speakers will share proven sales and marketing tools they used to expand and grow their businesses. **The Best Prospects Workshop** will be focused on machining and contract manufacturing and the individuals that own and manage them. High performing businesses plan their work and work their plan. These sessions will be workshops on how to target business in segments and technologies to grow YOUR company.

Resources and tactics will be presented to "go native" to get repeat customers and business in market segments for 2017-2020.

This event features an interactive board of experts and leaders in aerospace, automotive, die & mold, hydraulics & pneumatics, agricultural & construction equipment and water/waste water.

A LOOK AT SELLING IN MARKET SEGMENTS:

- Choosing segments
- Fitting into the "crowd" of others
- How to enter a market and what that means
- How to meet a few key people in the field
- Meeting market requirements and needs
- Wearing the camouflage of the segment
- Price, value and wants in each sector

Also on the agenda are topics like: additive manufacturing – best opportunities now and in the future, when to invest in additive manufacturing, making money with data and what to do next – marketing or sales.

CONTINUED NEXT PAGE

THE RECORD

OPERATIONS & EDITORIAL

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Molly West, Editor

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NATIONAL TOOLING & MACHINING ASSOCIATION

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Cleveland, OH 44134
1-800-248-6862
www.ntma.org

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SEGMENT SESSIONS WILL INCLUDE:

- Medical devices and equipment
- Die & Mold
- Aircraft
- Fluid Power
- Auto & Truck
- Construction/Agriculture
- International opportunity

We'll hear from speakers and panelists from: GE, Kennametal, Makino, Walter, Xometry, Norman Noble, Grainger, National Fluid Power Association, Mastercam, Memex, Modern Machine Shop and others.

This is a "must attend" event regardless of your size, manufacturing technologies or capabilities to accelerate your current

growth, or to learn how to initiate a growth plan.

I am looking forward to seeing you there. Registration is now open online. Be sure to save your place by going to: www.ntma.org and clicking on the events page.

DAVE TILSTONE / NTMA PRESIDENT



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NTMA

WELCOMES NEW MEMBERS

SAVE THE DATE 05.10.17 Irvine (LA), CA

NTMA

FINANCIAL MANAGERS
ROUNDTABLE

Irvine (Los Angeles), CA
Wednesday, May 10th, 2017

Join NTMA members from around the country as we discuss R&D Tax Credit, Revenue Recognition on Contracts, Tax and Compliance Updates, How to Manage Banking Relationships and ERP Systems. This event is perfect for anyone involved in making financial decisions for a company.

Topics subject to change.

REGISTRATION

Member	Member	Non-Member
Early Bird \$300 (Deadline 4/19/17)	\$375	\$500

HOSTED BY:  **CBIZ MHM**
2301 Dupont Drive, Irvine, CA 92612

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

ACCUTECH MACHINE INC.

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552 S. Gladiola Street
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BROCK BABB MEMORIAL SCHOLARSHIP ELIGIBILITY & APPLICATION

The Brock Babb Memorial Scholarship was created by the National Tooling and Machining Foundation (NTMF) to help students advance their education and pursue a career in manufacturing. This scholarship is named in honor and memory of Sergeant Brock A. Babb who gave his life defending our country and our freedom, the son of one of our long-time members Terry Babb, Apex Tool & Manufacturing, Inc. in Evansville, Indiana.

APPLICANTS MUST:

- Be at least 18 years of age, and a high school senior that is planning to attend an accredited educational facility; or a high school graduate enrolled to continue education in a manufacturing industry related discipline.
- Provide an official high school or college transcript.
- Provide a written summary stating their career goals, interests, classes they plan to attend, any work-related activities, and any volunteering efforts, and why they believe they should receive the scholarship.
- Provide a letter of recommendation from an NTMA Member Company in good standing, and one additional letter of recommendation from a business or community professional (employers, teachers, coaches, clergy, etc.)

Please visit www.NTMA.org and search: Scholarship. The 2017 deadline is June 30. For more information, contact Stacey Schroeder at 800-248-6862 or at sschroeder@ntma.org.



SAVE THE DATE 06.14.17 Chicago, IL



WORKFORCE DEVELOPMENT ROUNDTABLE

Chicago, IL

Wednesday, June 14th, 2017

- Managing the Talent Pipeline: A Supply Chain Approach
Keynote Speaker: Jason Tyszko, Executive Director, US Chamber of Commerce Foundation
- Secrets for On-boarding Success
- Is Training All That Important? You Bet Your Future It Is!
- Community Involvement and Other Collaborative Partnerships
- Skills Training for a Modern Manufacturing Workforce
- Organizational Culture

Topics subject to change.

REGISTRATION

Member	Member	Non-Member
Early Bird \$300 (Deadline 5/24/17)	\$375	\$500

HOSTED BY: **LOSASSO** LoSasso, 4853 N. Ravenswood
Chicago, IL 60640

For registration information or questions contact:
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DMG MORI

GROB

BIG KAISER

National Associate Members DMG MORI, GROB, Blaser Swisslube and BIG Kaiser Precision Tooling will host a 6-day tour for NTMA members to manufacturing facilities in Germany & Switzerland.



International Technology Tour Schedule

May 6		Saturday	Departing flights from the US (Arriving next day)
May 7		Sunday	Arrivals to Munich Relax Welcome Dinner
May 8		Monday	Visit and tour DMG MORI, Pfronten, Germany
May 9		Tuesday	Visit and tour GROB, Mindelheim, Germany
May 10		Wednesday	Visit and tour BIG Kaiser Precision Tooling, Rumlang, Switzerland
May 11		Thursday	Visit and tour Blaser, Hasle-Ruegsau, Switzerland
May 12		Friday	Sightseeing/free time in Zürich, Switzerland Farewell Dinner Party
May 13		Saturday	Departures to US

**** One or more end-user manufacturing facilities to be added to final itinerary ****



REGISTRATION AND PRICING INFO:

Administration Fee: \$495

For Registration Contact:

Kristen Hrusch

khrusch@ntma.org

Maximum capacity is 25

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- Attendees will see complementary product offerings and the full process of technology development and manufacturing at each location.
- In addition to the four member facilities, a minimum of one end-user tour will be arranged for a total of 5 sites in 6 days.

The Hosting Companies will provide

- Ground transportation in Switzerland and Germany
- Hotel accommodations (6 nights)
- Sightseeing activities
- All meals (except lunch on Sunday & Friday)

Guests will be responsible for their own airfare. Guests should arrive in Munich, Germany and depart from Zürich, Switzerland.

SAVE THE DATE

05.11.17

Los Angeles, CA



HOW TO BE A TOP SHOP SEMINAR



Learn what it takes to make your shop a Top Shop. Gardner Media and Modern Machine Shop will provide an interactive seminar on the industry standard benchmarking practice that can help elevate your business to the top of the industry. This seminar will focus on best practices to increase productivity, integrate business strategies, enhance safety and better manage human resources.

Additional topic information to include:

- Financial Management
- Human Resources
- Shop Floor Management
- Machining Technology

05.11.17 - Los Angeles, CA

Hosted By:



9351 Jeronimo Road, Irvine, CA

Time: 9:00am-5:00pm

Speakers Provided By
Our Sponsors:



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REGISTRATION

Member - \$200

Non-Member - \$300

Additional 2017 Date: 08.24.17 - St. Louis, MO

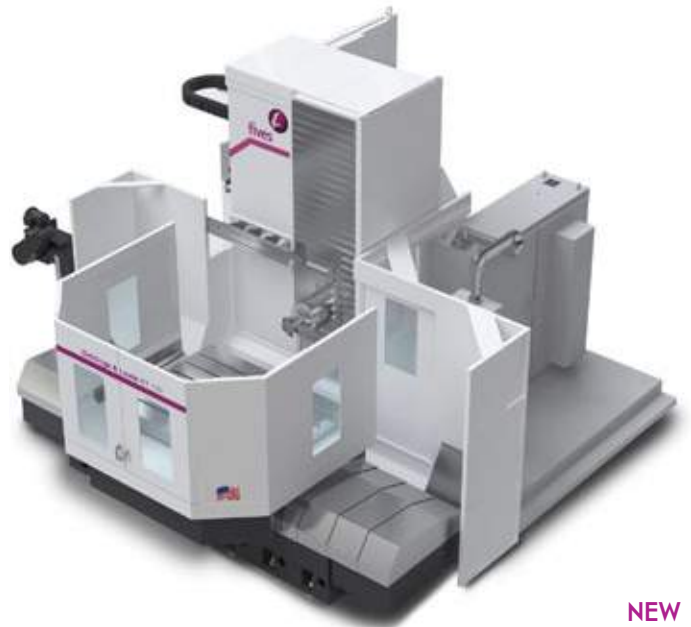
Each Top Shop Seminar includes breakfast and lunch, educational sessions, plant tour and closing cocktails and networking.

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

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THE MFG MEETING

THE MFG MEETING IN REVIEW... LOOKING TO THE FUTURE.

BY MATT GILMORE, NTMA DIRECTOR OF MEMBERSHIP AND BUSINESS DEVELOPMENT



The Future of Manufacturing starts now. That was the message and the energy at The MFG Meeting in Amelia Island, Florida at the end of March. Hosted by two major manufacturing trade associations, NTMA and AMT, The MFG Meeting 2017 was about information, networking and energizing industry

Recognition as Past Chairman and First Lady Herb & Lisa Homeyer



professionals for what lies ahead.

The event kicked off with a welcome reception and dinner sponsored by Kennametal. Jimmy Buffett-inspired tunes filled the air as members danced the night away in the paradise venue of Amelia Island.

It was four days of information and inspiration. Opening keynote speaker, Josh Linker, a founding partner of Detroit Venture Partners, set the tone kicking off the conference. According to Linker, the companies that become true innovators are those that have a systematic process to focus their team's creativity into practical outputs.

Throughout the weekend, manufacturing professionals shared their success stories and ideas for future innovation—including three NTMA members who gave MFG Talks.

• **Herb Homeyer**, president of Homeyer Precision Manufacturing and NTMA chairman in 2015 and 2016 attributes much of

his success to networking and attending the NTMA conferences. He shared how his NTMA experience helped him build a well-rounded management team to lead Homeyer Precision for another generation.

• **Mike Hirsh**, the president, CEO & owner of Hirsh Precision Products spoke about his
CONTINUED ON PAGE 14

Special Recognition for Dave Sansone: Executive Director of NTMF 2009-2016



COMPANIES MARKING NOTEWORTHY ANN

Steve Weyreter (Accepted by David Weyreter) Major Tool & Machine, Inc. 50 Years



Mark Lashinske Modern Industries Inc. 45 Years



Tom Busse Rockford Toolcraft, Inc. 41 Years



Jeff Kelly Hamill Manufacturing Co. 40 Years



70 YEARS +

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Ehrhardt Tool & Machine LLC
Hobson & Motzer, Inc.
Bachman Machine Company
Therm, Inc.
Hoppe Technologies, Inc.
Mitchell Machine, Inc.
P-K Tool & Manufacturing
J. W. Harwood Co.
Brinkman Tool & Die, Inc.
Tool Specialties Company

65 YEARS

Christopher Tool & Manufacturing Co.
GEMCity Engineering and Manufacturing

DRT Holdings, Inc.
Precision Boring Company

60 YEARS

Precision Cams/Lamb Machine
Erickson Tool & Machine Company
Wilco Die Tool Machine Company

55 YEARS

United Tool & Engineering Co.

50 YEARS

Boston Centerless
Ledford Engineering Company, Inc.
Collins Instrument Company
Sage Machine & Fabricating

COMPANIES NOT IN ATTENDANCE BUT STILL

40 YEARS

Palma Tool & Die Company, Inc.
Model Machine Company, Inc.
Beaver Tool & Machine
Company, Inc.
Ruoff & Sons, Inc.
KVI Inc.
Hayden Corporation
South Bend Form Tool Company
R & M Manufacturing Company
Allen Aircraft Products, Inc.
McAfee Tool & Die, Inc.
Pahl Tool Services
Hamill Manufacturing Company

45 YEARS

Major Tool & Machine, Inc.
Rockstedt Tool & Die
Atlas Tool, Inc.
Primeway Tool & Engineering Co.
Fyco Tool & Die, Inc.
Ewart-Ohlson Machine Company
Imperial Machine & Tool Company
Akron Tool & Die Company, Inc.
Kennick Mold & Die, LLC.
Die Cast Tool, LLC
Baumann Engineering
Modern Industries Inc.
Osborn Products, Inc.

THE NTMA THANKS OUTGOING TEAM LEADERS

Sam Griffith
Audit Team, 2010-2016



Mike Hirsh
Manufacturing & Technology Team, 2015-2016



Bob Mosey
Nominating Team, 2015-2016



Zac Overton
Emerging Leaders Team, 2014-2016



Jeff Kelly
NTMF Chairman of the Board 2015



Mike Mittler
NTMF Chairman of the Board 2016



IVERSARIES AT THE MFG MEETING 2017

Ken Seilkop
A-G Tool & Die,
a Div. of Seilkop Industries, Inc.
30 Years



Kimberly Arrigoni
Haberman Machine, Inc.
30 Years



Bob Mosey
Moseys' Production Machinists
25 Years



MARKING NOTEWORTHY ANNIVERSARIES

35 YEARS

Nerjan Development Company
Sterling Engineering Corporation
Precision Tool & Mold, Inc.
General Machine Shop, Inc.
D & S Manufacturing Corporation
Pioneer Tool Supply, Inc.
Forster Tool & Manufacturing, Inc.
Brogdon Machine, Inc.
Burger & Brown Engineering, Inc.
PR Machine Works, Inc.
William Sopko & Sons Co., Inc.
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T2K-TOOLING 2000

30 YEARS

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Unique Tool & Manufacturing
Southeastern Technology, Inc.
Associated Electro-Mechanics, Inc.
W & H Stampings & Fineblanking, Inc.
Haberman Machine, Inc.
Three-Way Pattern, Inc.
Manetek, Inc.
North Central Tool & Die, Inc.
Wirecut Technologies Inc.
C & R Manufacturing, Inc.
May Technology & Manufacturing, Inc.
Hanson Mold
Electro-Mechanical Products, Inc.
Hellebusch Tool & Die, Inc.

Sattler Companies, Inc.
Venango Machine Products, Inc.
Meadville Tool Grinding
Advantage Mold & Design
JK Tool & Die, Inc.
Magdic Precision Tooling, Inc.
Conco Systems, Inc.
A-G Tool & Die,
Div. Seilkop Industries, Inc.
Tomak Precision
Fischer Tool & Die Corporation
Bollinger Tool & Die, Inc.
Signal Machine Company
Vanderveer Industrial Plastics, Inc.
Accurate Manufacturing Co.
Repairtech International, Inc.

25 YEARS

Arrow Diversified Tooling, Inc.
Frasal Tool Co., Inc.
Precision Specialists Machine, LLC
Central Tools, Inc.
All-Tech Machining, Inc.
Mod Tech Industries, Inc.
G & K Machine Company
North Canton Tool Company, Inc.
Laser Automation, Inc.
 Fargo Machine Company
Northwood Industries, Inc.
Moseys' Production Machinists
Summit Precision, Inc.
Bent River Machine Inc.

MFG CONTINUED

passion for building a workplace culture that is engaging, fun, and productive.

• **Nathan Byman**, president of Wolfram Manufacturing offered insight into why Industry 4.0 should be seen as a strength rather than a threat, how to develop next-generation manufacturing teams and how to bring production technology to small-scale manufacturing.

The Membership Luncheon was a new addition this year, sponsored by alliantgroup. There was a full house in attendance to meet the new NTMA Chairman, Mark Vaughn, and Executive Committee. These members of NTMA leadership were quick to share the value of their NTMA memberships. Members walked away with new ideas about how to put their NTMA membership to work—and delicious sundaes from the ice cream bar.

For those who had not previously attended an NTMA conference, The First Timers Reception, sponsored by Royal Products, allowed members to connect with a staff member who helped them to navigate all the conference had to offer. These “first timers” also had an opportunity to meet

one-on-one with team leaders, the executive committee and past chairmen as well as a select group of national associate members.

The general assembly, sponsored by Grainger, was a time to recognize those going above and beyond to strengthen our organization. The NTMA recognized members celebrating significant anniversaries as well as our outgoing team leaders and chairmen. Chris Kaiser, President & CEO of BIG Kaiser, presented the NRL with a donation of over \$4,000, which represented a percentage of sales to NTMA members at the close of 2016 (see below). Our Tech Award winners also took to the stage (see page 18).

The biggest take away from The MFG Meeting 2017: The future looks bright for manufacturing.

Thank you to all who attended The MFG Meeting. We encourage you to plan ahead for the NTMA's Fall Conference slated for October 25-27 in San Antonio, Texas—another great opportunity to build the future of manufacturing.



Chris Kaiser presents Bill Padnos with a donation from BIG Kaiser to the NRL





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WHERE IS THE FUTURE OF MANUFACTURING?

“Youth who are never exposed to manufacturing become adults who never consider manufacturing careers.”

BY BILL PADNOS, NTMA, DIRECTOR OF YOUTH ENGAGEMENT



On the Colorado Advanced Manufacturing Alliance (CAMA) web site under workforce, the second paragraph leads off with the above quote. I found that line while I was preparing for my presentation to the Rocky Mountain NTMA Chapter and CAMA leadership about why they should start an NRL program in the Denver area. It is always nice to be able to use someone else's words to make your point.

The Future of Manufacturing will not enter your facility unless you both open your doors and connect with today's youth. Being an NRL industry advisor or volunteering at a local competition is extremely important in connecting with the students, but they won't come to work for you unless you invite them to come to your facility for a tour. In order to secure your future workforce, you must do both—volunteer and connect.

The NTMA has invested in the NRL program because it engages students in the manufacturing process of planning, designing, building, testing and re-building a 15 pound bot to battle in a gladiator-style competition. The students are also documenting the process of building the bot. If the students follow the NRL engineering documentation rubric, then any machine shop could replicate their bot from the documentation. NTMA has truly created a program in which students are learning the actual technical and soft skills needed for a career in manufacturing.

We are working very hard to expand the program through the country. NTMA chap-

ters are recognizing the value of the program and gearing up to start their own. We are expecting new competitions over the next year in Indiana, Michigan, Colorado and the eastern side of Pennsylvania. It is wonderful that we are engaging manufacturing's next generation as an association, but individual member companies need to take advantage of the program to secure their future.

Building the competitions is just the first step in building this workforce. The competitions mean nothing without a meaningful connection to how these skills and this opportunity translate into **CONNECTING** with your future employees.

When I attend regional competitions, it is wonderful to see chapter members volunteering and the competition unfolding as a real success for the students. Unfortunately, what I'm NOT seeing is member companies taking advantage of the opportunity to recruit these students right there—on the spot. You never go to an industry networking event without your business cards because you never know if your next sale will be in that room. Likewise, when you attend an event that is filled with engaged students that have started to learn the technical and critical thinking skills needed to be a precision machinist – come prepared. Talk to these students. Give them your card. Hand them



a brochure. Set an appointment for the most talented to visit your shop.

Some of our competitions offer the opportunity for companies to set up a display booth or table—do it. See and be seen by these talented and engaged students. They are looking for opportunities. You are looking for employees. It's a natural fit—help them to connect the dots.

We all get so involved in building the bots and running the competitions that we forget the real reason for the NRL is to ensure the Future of Manufacturing by recruiting these students to come work for you. Last year, I had to ask an NTMA member to pose for a picture giving his business card to an NRL student during a competition. That photo opp turned into an interview and the student was hired two weeks later. Are you willing to take that extra step and utilize the NRL program as your individual workforce talent pipeline program? If the answer is “yes,” then the Future of Manufacturing will be coming through your doors and working on your machines.





INVITATION TO ISTMA ASSOCIATE MEMBERS AROUND THE WORLD

BY DAVE TILSTONE, PRESIDENT, NTMA AND ISTMA



The International Special Tooling & Machining Association (ISTMA) is an international association representing 19 special tooling and machining associations throughout the world. Collectively, ISTMA member associations represent over 8,000 companies and over \$40 billion U.S. dollars in annual sales. Every three years, this organization hosts an interna-

tional event that brings together businessmen and technicians from the tooling industry chain to debate and define strategies to supply worldwide markets, propose innovation, outline best practices and generate business opportunities.

This time, ABINFER, the Brazilian Association of the Tooling Industry will host the event in Joinville, State of Santa

Catarina, Brazil from June 28 through June 30, 2017. NTMA members are invited and encouraged to take advantage of this tremendous opportunity. The stunning venue offering a world class convention center and a vast array of fascinating and interesting places to visit.

PAST CONFERENCES HAVE BEEN HELD IN:

- 2014 - Cape Town, South Africa
- 2010 - Windsor, Canada
- 2007 - Joensuu, Finland
- 2004 - Bangkok, Thailand

THE 15TH WORLD CONFERENCE WILL INCLUDE:

- Carefully researched and identified technical sessions to keep you up to date with the latest trends in technology and business management.
- A special focus on the future technology for Industry 4.0 and the Internet of Things.
- Regional meetings to enable you to network with professionals from the tooling industry chain from your regions and around the world.
- Opportunities to do business with customers, suppliers and service providers.
- Connections to the dimensions of professional skills, management and sustainability.
- Plant tours to distinguished toolmakers in Joinville and the region.

In addition, ISTMA has arranged a selection of carefully prepared tours for your accompanying guests so that they can explore and experience what this beautiful area has to offer.

Join us at ISTMA 2017 to learn, make connections and help shape the future of manufacturing on a global scale.

If you are interested in attending ISTMA, you are strongly encouraged to begin your planning process early to allow the appropriate time for securing a visa and making travel arrangements. You can find more information on the ISTMA website at: www.istma.org



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Spindle



Wire-Cut EDM



Die-Sink EDM



Hole-Drill EDM



Laser Texturing



Additive Manufacturing



Tooling



Automation



Customer Service

THE NTMA TECH TEAM



The NTMA Tech Team is a group of dedicated volunteers with an eye on the future. In an effort to share their findings with NTMA members, the team has established a framework of resources and events to help members stay current and sharpen their vision for the future.



TECHNOLOGY TEAM PURPOSE:

To deliver value to NTMA members in the areas of Manufacturing Technology and Best Practices for business.

TECHNOLOGY TEAM MISSION:

To provide accurate and timely information on current and emerging technology that can improve productivity, competitiveness, quality and profitability among the NTMA membership.

NTMA TECHNOLOGY TEAM

JONATHAN VETETO - 2017 Team Leader

Cogitech Corporation

JACK BURLEY

Big Kaiser

National Associate Member

MIKE HIRSH

Hirsh Precision Products

DAVID MCPHAIL

Astrix Networks America Inc.,
dba Memex Inc.

ROBERT O'DONNELL

O-D Tool & Cutter, Inc.

TIM STAUFFACHER

Blaser Swisslube

National Associate Member

BRUCE TSCHIDA

Tschida Engineering, Inc.

WILLIAM VEJNOVIC

GROB Systems

National Associate Member

JARED VETETO

Cogitech Corporation

PATRICK WALSH

Ehrhardt Tool & Machine LLC

TIM WETZEL

Homeyer Precision Manufacturing

GILLEN YOUNG

Custom Tool Inc.

TECHNOLOGY TEAM LIAISONS:

MARK LASHINSKE

Modern Industries Inc.

PAM WIGHTMAN

NTMA Staff

Webinars:

The Technology Team's vision for a series of webinars began in late 2015. Mike Hirsh's vision for the "Technology Tuesday" webinars was to bring together multi-presenter webinars through our National Associate Members and make those speakers readily available to the general membership. The Technology Team began utilizing the National Associate Member's information, expertise and real world examples of technologies and best practices.

The Technology Team developed a list of "hot technology topics" and the process began. In 2016, the team offered seven webinars. They will host one each quarter in 2017.

AN ARCHIVE OF PAST WEBINARS IS AVAILABLE ON THE NTMA WEBSITE.

- GD&T Webinar – Scott Neumann – Technical Consultants Inc. – www.geotol.com
- The Business Case for 5 Axis Machining – GROB and GF
- Strategy and Process Optimization - 5 Axis Machining – GROB and GF
- Multi Axis Quick Change Workholding Systems – BIG KAISER
- Partnership for Enhancing Productivity in Automated Machine Tending – Fanuc and Schunk
- Cryogenic Milling – 5ME, Okuma and Mazak
- Metrology – Zeiss and Digital Metrology

NTMA Technology Award:

The Technology Team accepts annual nominations for this award. The nominations come from the membership, chapter executives, the Executive Committee and other teams. Awards are presented at The MFG Meeting each year. NTMA members and non-members can be nominated. The Association for Manufacturing Technology's (AMT) Technology Issues Committee is a proud sponsor of this award and has underwritten the NTMA Technology Award in the amount of \$5,000. Each award recipient receives \$2,500 (less awards and shipping). The Technology Excellence Award is designed to recognize and share excellence in technology fields and strengthening the precision contract manufacturing industry.

THE WINNERS OF THE 2017 NTMA TECHNOLOGY EXCELLENCE AWARD ARE:

Category 1 – Technology Best Practices

Mittler Brothers Machine & Tool



Category 2 – Business/Cultural Best Practices

MetalQuest Unlimited, Inc



NTMA 6S Award:

The NTMA Technology Team is committed to improving the perception of American manufacturing by promoting and recognizing excellence in member shops. The 6S Excellence Award is specifically designed to honor shops that display excellence in organization and efficiency.

Companies apply for the award by submitting a self-assessment based on criteria that demonstrates best in class practice in the six S categories:

- **SORT** – Clear clutter.
- **SET-IN-ORDER** – Have a place for everything and is everything in its place.
- **SHINE** – Clean work areas and equipment.
- **STANDARDIZE** – Establish consistent schedules and methods of performing the cleaning and organization work areas.
- **SUSTAIN** – Audit and monitor the schedules and stick to the rules.
- **SAFETY** – Are the areas safe?

Recipients of the 6S Award are presented with a Certificate of Excellence at the NTMA Fall Conference. The award is renewable every year.

During our 2016 Fall Conference the Technology Team sponsored a 6S Workshop which was well received by the membership. A panel discussed how to implement best practices and how to apply for the 6S Excellence Award. The goal of the workshop was to encourage shops to become 6S compliant.

The Technology Team is looking forward to presenting many of our members with the 6S Excellence Award at our Fall Conference in San Antonio, Texas this year.

PAST 6S RECIPIENTS:

LeanWerks, Mountainside Medical LLC, Hirsh Precision Products, Homeyer Precision Manufacturing, Overton & Sons Tool & Die, Bowden Manufacturing, Hobson & Motzer, Major Tool & Machine of Indiana, Pointe Precision, Toth Technologies



"The future of manufacturing will be more connected, automated and highly technological than we have ever seen. It will be very sophisticated and demand highly skilled employees who will be educated in computer sciences and engineering. There will be an increase in production output because of the advancements and investments in these technologies. Every dollar of manufacturing output requires 19 cents of services in other areas. In some manufacturing industries, more than half of all employees work in service roles, such as R&D engineers and office-support staff. Continued innovations in materials and processes—from nanomaterials to 3-D printing to advanced robotics—also promises to create fresh demand and drive further productivity gains. These innovations will be relying on IT, software solutions for virtual planning and development, controlling processes to optimized production, machine monitoring to whole system monitoring to flexible machining processes in a virtual world."

**Sources: Siemens AG – The future of Manufacturing, World Economic Forum, McKinsey Global Institute*

Tim Wetzel, Homeyer Precision Manufacturing



"I see the future of manufacturing including more automation, more flexible machine tools and more powerful software. The price of robotic technology and electronic hardware (RAM, ICs, etc.) has dropped to the point where even small businesses can take advantage of technologies that were previously priced out of range. Machines can be more efficient with 5-axis technology, automation (load/unload) and machine monitoring. I see the future of technology requiring more investment in education and training, especially in the traditional "machining" arts. New machine tool technologies require not only education in software and machine operating systems, but also in manufacturing engineering, part "processing" and metal cutting."

Jonathan Veteto, Cogitech Corporation



"There has never been a better time to be in manufacturing than now! With all of the advancements in machine tools, controls, vision systems, automation, software, sensors, tooling, and "additive" - the future of manufacturing is bright!

Advanced Manufacturing is the successful integration of new and emerging technologies into the manufacturing of products and processes. Those that are willing to invest the time, training and financial resources will reap a host of benefits - the greatest of which is a more dedicated and engaged workforce.

As this intermingling of technologies occurs, we will also see machine intelligence leap forward. Imagine the day when your CNC machine uses vision to prevent collisions, taps into its arsenal of sensors to select the optimum cutting feeds and speeds in real time or even generates its own tool path based on the cutters it has available in its carousel.

We will continue to see the seamless integration of "additive" manufacturing across all machine platforms as concern over material properties is put to rest within the engineering and regulatory communities. No doubt that the availability of customizable materials will give engineers outstanding flexibility and latitude with their future product designs.

Non-contact scanners (both hand-held and machine mounted) will be able to verify the exact physical and dimensional properties with amazing speed and accuracy."

Mike Hirsh, Hirsh Precision Products, Inc.

Look who was at the 2017 CLS. Don't you want to be in next year's picture?!



CLS: A SUCCESS- CASE CLOSED

BY SALLY SAFRANSKI, ST. LOUIS CHAPTER NTMA



It was the third week in February in Austin, Texas. It was the place for NTMA chapter leaders to be – the 2017 Chapter Leadership Summit (CLS). Sixty-eight attendees represented 25 chapters. CLS organizer Kelly LaMarca and Chapter Executive Team Leader Kaity Rosengren said this is “the highest we’ve ever had at CLS.”

NTMA Executive Committee and staff welcomed chapter executives/directors, board members and trustees. Speakers sharing their expertise included Caitlin Andrews, Dave Sullivan, Ryan Felps and Lowell Aplebaum. NTMA Affinity Partners (APPI,

I am so looking forward to the next CLS. I would highly recommend this to every chapter board member of NTMA

Rich McConnaughey

Staples, Grainger, B&B, PartnerShip, CBIZ and StarChapter) shared resources that can help members realize a higher ROI on their membership dues. The venue, speakers, content, food and networking were extremely well received. Attendees especially enjoyed a CSI-style crime solving-team building event.

The annual Chapter Leadership Summit is designed to bring together chapter executives with their chapter’s leadership in a focused time of learning, reflection and planning. Peer-to-peer conversations helped chapters compare best practices and learn from each other. There was time for networking and some fun along the way.

Having never attended an NTMA Chapter Leadership Summit before, Rich McConnaughey



(American Tool & Mold, Florida West Coast Chapter) hoped to learn several things. He wanted to learn things like how to grow his chapter, how to get more involvement from both long-term and new members and how to encourage networking. McConnaughey said, “I learned everything I was looking for and more, and even had fun while doing it!”

Among the most important realizations

My experience at the Chapter Leadership Summit was awesome! I had a great time, met a lot of really cool people, and most of all I learned a lot of techniques to build our chapter.

Kelly LaMarca took me under her wing and visited with me quite a bit. She made me feel very welcome and engaged in the summit.

THINGS I LEARNED:

- How to elevate the volunteer experience.
- Tips for engaging the young professional into our industry.
- Better understanding of the NRL program.
- Networking skills and building better relationships.
- Each chapter’s biggest and best programs.
- Increasing member attendance and membership value.
- And creating the member experience.

Oh, and did I say networking? Lots of networking.

I can’t say that I absorbed 100 percent of the information, but I did get a lot of great ideas on all topics.

By the last day I was feeling a bit overwhelmed, it was a lot of information to take in, and obviously much more work to be done to make improvements for our chapter.

All in all, it was a great experience and I will go again in the future.

Gary Adair, vice president - North Texas Chapter



"We've got it! The perfect fingerprint!"



for first-time attending chapter board members: this is not just a chapter executive event. They noted that they were glad they took the time from busy schedules to attend. Board members came away with new ideas and skills that will help their chapter grow and thrive. These are skills that will help professionally, as well!



EDWIN VOBEDA MEMORIAL SCHOLARSHIP ELIGIBILITY & APPLICATION

The Edwin Vobeda Memorial Scholarship was created through a charitable donation to the National Tooling and Machining Foundation (NTMF) from the Edwin F. and Mildred Vobeda Charitable Remainder Trust to help students in the Central Time Zone advance their education in a tool and die apprenticeship program to pursue a career in the industry.

APPLICANTS MUST:

- Be at least 18 years of age, and a high school graduate with a minimum GPA of 2.5.
- Be enrolled in a registered tool and die apprenticeship program in the United States with the intention to complete the program.
- Provide an official high school or college transcript.

- Provide a written summary stating their career goals, interests, classes they plan to attend, any work-related activities, and any volunteering efforts, and why they believe they should receive the scholarship.
- Provide a letter of recommendation from an NTMA Member Company in good standing, in the Central Time Zone, and one additional letter of recommendation from a business or community professional (employers, teachers, coaches, clergy, etc.)

Please visit www.NTMA.org and search: Scholarship. The 2017 deadline is June 30. For more information, contact Stacey Schroeder at 800-248-6862 or at sschroeder@ntma.org.

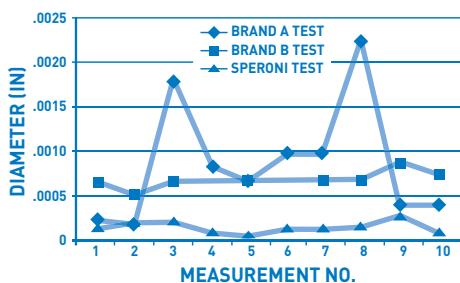


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TO ACCESS ENTIRELY
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CAN PRODUCE QUALITY
FINISHED PARTS AT A
COMPETITIVE PRICE.** ”

– Shop Owner



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business. Hear their stories at makino.com/quality.



MEET OUR NATIONAL ASSOCIATE: PAULO



an interview with with Ben Rassieur III, president of Paulo

WHAT IS YOUR COMPANY SPECIALTY?

Paulo provides heat treating, brazing and metal finishing services to a wide range of industries including, aerospace, automotive, power generation, and tool and die.

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

My grandparents founded Paulo in 1943. They had been manufacturing drill bits for mining and had some exposure to heat treating. They recognized the need of many manufacturers for outsourced heat treating services. The unique thing about it was that my grandmother was, perhaps, the first woman in the Engineering School at University of Missouri. She was really the driving force behind the idea of entering commercial heat treating. She and my grandfather were quite a resourceful and persistent partnership. They continually added to the processes and range of equipment that they offered. My father entered the business in 1949 and developed an intense interest in systems to manage the wide variety of processes they offered for an equally wide variety of customers. By the early 1970s Paulo had grown to a point where my father and grandfather began to look at expansion outside of St. Louis. They built the first branch plant in Kansas City, focused solely on heat treating tools and dies. Soon thereafter we made our first acquisition in Memphis, Tennessee and my brothers and I joined the company. We then began acquiring heat treating businesses in the

Midwest and Southeast. We also continued to build our engineering, software development and operations management departments. We reinvest heavily in our plants and have had good organic growth in our markets while adding new locations.

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

We have capabilities in virtually all areas of heat treating and brazing. We offer a select group of metal finishes. We are accredited to TS-16949, AS-9100, NADCAP and CQI-9. Our customers range from small machine shops to the largest manufacturers in the world. In particular, NTMA members make up a significant portion of our customer base. Of course, many of you are tool and die makers or involved in other precision machining. Many of you use our vacuum heat treating services, including high pressure gas quench of dies up to 8,000 pounds. We also offer Nitriding, ferritic nitrocarburizing (FNC), and black oxide service to the industry.

WHAT COMPANY ACCOMPLISHMENT ARE YOU MOST PROUD OF?

Over the course of almost 75 years, there are many things we can be proud of. However, I think the thing that I am most proud of is developing a multi-talented organization that is focused on the success of you, our customers. Anybody can buy equipment. The real trick is to have a team of people who understand your needs and are devoted to meeting them.



WHAT SETS YOUR COMPANY APART?

Paulo is unique in the heat treating industry due to the resources we devote to engineered systems. We design and build our process control systems, specialized automation and the complete software system that we use to run our operations. With these engineering resources, we can quickly deliver tailored solutions for our customers on a large scale, and in multiple locations. Our range of process offerings is huge and we are always adding new processes to address our customers' needs.

WHAT IS YOUR COMPANY MOTTO?

Our mission is to help our customers succeed. We value safety and integrity in everything we do. We focus on quality, service and productivity.

WHAT ELSE WOULD YOU LIKE OUR READERS TO KNOW?

I would encourage anyone with a heat treating, brazing or metal finishing need to visit any Paulo plant or to visit us on the web and learn more about what we can do for you.



HIRSH PRECISION ANNOUNCES APPOINTMENT OF PETER DOYLE AS CHIEF OPERATING OFFICER

Hirsh Precision Products (HPPI) announced that Peter Doyle has joined the company as chief operating officer. "With this transition, we are demonstrating our commitment to grow and better serve our customers," said CEO, Mike Hirsh. "Peter is a seasoned leader who brings experience across many areas where we don't have capabilities today. His efforts will enable us to better serve our customers and scale our operations. His initial focus will be on building on our success through improved production scheduling, asset utilization, and training investments for the team. I'm excited about the business acumen, tools, and project management expertise that he

brings to our leadership team."

Doyle is an accomplished operational and financial leader with more than 15 years of experience across industries including manufacturing, construction, real estate, technology and the public sector. As a strategy and operations manager at Deloitte Consulting, he focused on the planning and execution of business transformations driven by M&A, strategic change and significant process changes for some of the world's most successful and respected companies.

"I am thrilled to be joining the incredible team at Hirsh Precision. I am energized by this opportunity and honored to work with a company built



on its core values and known for its outstanding customer service," said Doyle. "I look forward to working with the exceptionally talented people at Hirsh and hope to set the pace in the market for quality and timeliness for our customers. The company's legacy and leadership team are truly unique. Given the growth that the company has experienced in recent years and its investments in best-in-class manufacturing capabilities, I'm confident we have a bright future ahead."



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EMERGING LEADERS SPOTLIGHT

MADISEN DAHL

MARKETING AND RECRUITING SPECIALIST, JD MACHINE CORP



Madisen (Maddie) Dahl is the Marketing and Recruiting Specialist at JD Machine Corp and the chapter executive of the Northern Utah Chapter of the National Tooling and Machining Association (NUNTMA). What sets Dahl apart are her exceptional communication skills, her leadership and her passion for the industry.

Spearheading employee recruitment at JD Machine Corp, Dahl has dramatically improved the quality of employees hired leading to a broader scope of work for the company. She has revamped the onboarding procedures, ensuring that new hires feel connected to the company. She values the success of others, and makes networking and connecting people a priority.

As the NUNTMA chapter executive, Dahl wrote the grant that allowed for the

development of machinist apprenticeship programs for local CNC machine shops. This included marketing those programs. As the administrator for the Machine Utah Program, she has taken an active leadership role in the recruiting, retaining, and development of Machine Utah Apprenticeship Programs. Dahl has developed her leadership skills through her role as chapter executive for the NUNTMA. She supports a board of nine business executives and leads 26 member companies.

Dahl has planned and supported two National Robotics League (NRL) competitions, and also attends many high school career days, STEM fairs and job fairs. In her free time, she gives back by mentoring a group of teenage girls, ages 12-18, discussing integrity, team-work, self-worth and

accountability.

Dahl was recently recognized with the STEP Emerging Leader Award from the Manufacturing Institute.

In her own words: "I am passionate about keeping the American Dream alive – continuing the manufacturing legacy of my parents and grandparents, by building a workforce full of brilliant creators and innovators," said Dahl. "It's a privilege to spend time in a lean manufacturing environment where the impossible is accomplished on a daily basis."

**source: ManufacturingInstitute.org*



CBIZ – Proud to be an NTMA National Associate

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- Take full advantage of credits and deductions, reduce expense – R&D, sales & use, tangible property, cost segregation, workers' compensation safety
- Simplify the entire employee life cycle while managing cost – benefits, payroll, health care, wellness, retirement
- Reduce risk and ensure compliance - personal and fiduciary, product liability, cyber and data, health & safety, import-export international sales
- Develop a plan for growth, sale, succession

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For more information, find us online or connect directly with
Kevin Nussbaum, VP of Client Development
Knussbaum@cbiz.com | 314.692.5824



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INDIANA HIGH SCHOOL'S PRECISION MACHINING PROGRAM GETS ONE-OF-A-KIND DONATION

BY DANA SUPER, BIG KAISER

BIG KAISER Precision Tooling Inc. recently donated a one-of-a-kind Speroni tool management system to the Precision Machining program at Plymouth Community Schools in Plymouth, Indiana.

When Andretti Autosport in Indianapolis replaced their Speroni MAGIS tool presetting and measuring system with newer equipment, it was Plymouth Community School's gain. The Speroni MAGIS was donated to the program embellished with the race team logo and complete with driver autographs.

"BIG KAISER is a strong supporter of manufacturing education and workforce development, and we needed a home for this presetter," explains Doug Sumner, Product Manager for TMS at BIG KAISER.

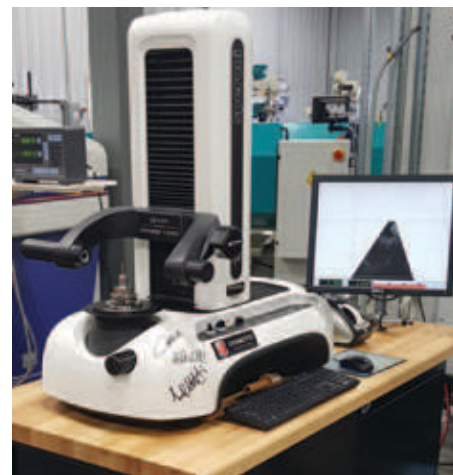
"It was great that we could donate the machine in Indiana, support the kids at Plymouth High School, and get the team branding from our partners at Andretti Autosport."

The Plymouth Community Schools program is the result of a public-private consortium supported by ITAMCO (Indiana Technology and Manufacturing Company), Ivy Tech

Community College, NCAVC (North Central Area Vocational Cooperative) and Plymouth Community Schools. The group's mission is to better prepare students for the demands of today's technology-driven jobs.

The program mirrors a curriculum at Ivy Tech South Bend, called The Machine Tool Institute, designed to instruct students in shop safety, industrial terminology, hand tools, machine tooling, and measurement and layout in a real-world shop setting. Students start with laboratory exercises on manual turning and milling operations, and progress to more sophisticated CNC equipment. As a National Institute of Metalworking Skills (NIMS) certified program, they earn dual credits for high school and at Ivy Tech, where many students decide to continue their education.

"Every student leaves the program with a minimum skill set of manual mill and lathe setup experience, blueprint reading including GD&T, and precision measurement use," says Scott Kaser, Instructor at Plymouth Community School. "The addition of the Speroni TMS gives the student a well-rounded skill level of all



the possible ways tools could be setup in a CNC production environment," Mr Kaser said.

BIG KAISER is a worldwide leader in high-precision tooling systems and solutions for the metal cutting industry that guarantee extreme accuracy and repeatability. Our products are of the utmost quality — manufactured with materials and craftsmanship that enable superior performance. As a member of the BIG DAISHOWA Group (Osaka, Japan), BIG KAISER has grown into a well-recognized global tooling provider, with manufacturing facilities in North America, Europe and Asia.



BIG KAISER

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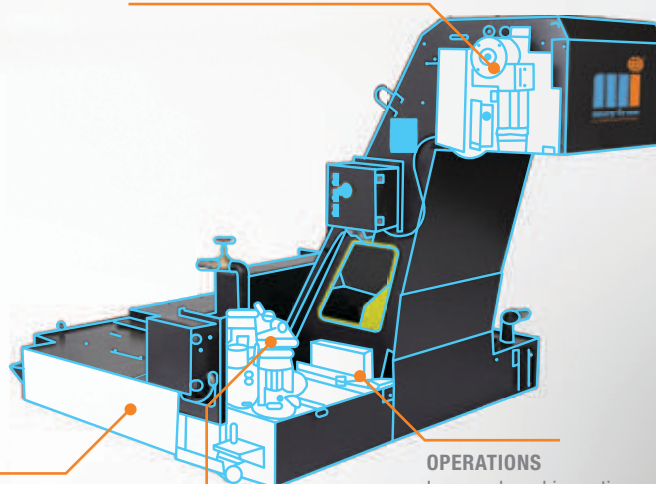
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OKUMA WELCOMES CNC MACHINING CENTER PRODUCT SPECIALIST TO SALES TEAM

ERROL BURRELL HAS MORE THAN 30 YEARS OF 5-AXIS MACHINE TOOL EXPERIENCE.

SUBMITTED BY PAULA LALLI, OKUMA AMERICA CORPORATION

Okuma America Corporation, a world leader in CNC machine tool manufacturing, is pleased to announce that industry expert, Errol Burrell, joins the team as machining center product specialist. He has extensive 5-axis knowledge and is responsible for supporting sales and Okuma distribution partners.

Burrell previously worked as product sales manager for a machine tool company and held positions as an application engineer and training director. "Okuma is thrilled to have Errol join us as our machining center product specialist. He's an

expert in the industry with more than 30 years of hands-on experience in working with 5-axis machines.

His in-depth CNC technical knowledge is a tremendous asset to our customers and distributors," says Tim Thiessen, vice president of sales and marketing.

Burrell has a Higher National Diploma (HND) in mechanical engineering, a Higher National Certificate (HNC) in computer science and holds various engi-

Errol Burrell. Okuma machining center product specialist.

neering certificates from Preston College and the University of Central Lancashire, England.



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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):



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: May 30th

To register or for questions, contact Brittany Belko at 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