

# THE RECORD

Published by the National Tooling and Machining Association

## INSIDE THIS ISSUE

10 Reasons Manufacturers Need  
Software & Technology pp 20-21

Using Digital Technologies to Attract  
a Younger Generation pp 22-23

*and so much more ...*

2024

2023

**YEAR END REVIEW 2022**

2021

2020

# DMG MORI Manufacturing USA

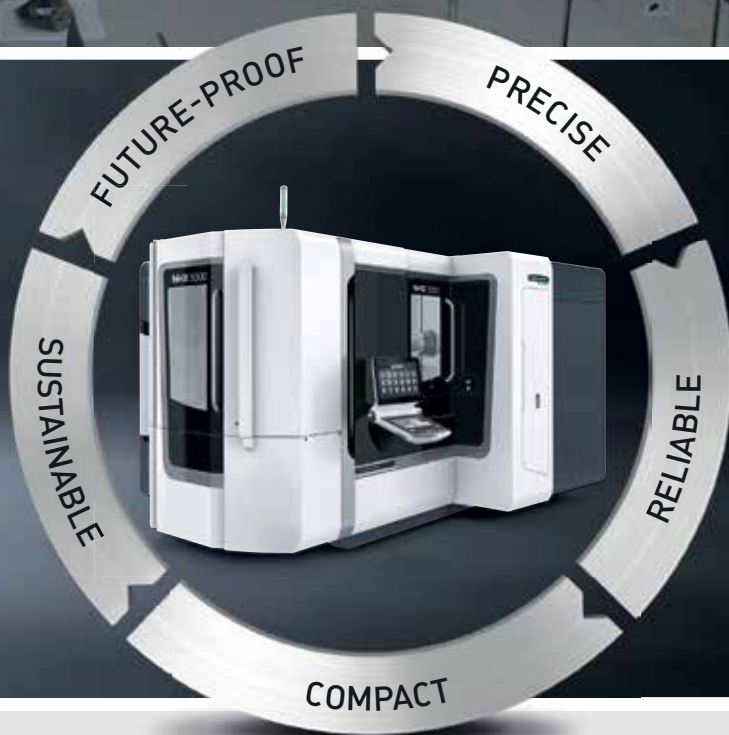
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## THE RECORD

### OPERATIONS & EDITORIAL

Roger Atkins, President  
Doug DeRose, Editor  
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To advertise in The Record, or for information on publishing your corporate newsletter or sales literature, contact Rena Montedoro at 716-290-1925 or [rmontedoro@ntma.org](mailto:rmontedoro@ntma.org) for advertising and editorial content.

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## Upcoming NTMA National Events



**Chapter Leadership Summit 2023**  
January 25-27 in Albuquerque, NM



**Emerging Leaders 2023**  
TBD



**Engage 2023**  
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## What's Your Story?

### Send Us Your Story

Each issue of The Record will feature stories from members – and we want to hear from you. Send us stories of success, or those that fit the theme of the month's issue. The submission deadline is the first of the month prior to publication.  
**Contact Rena Montedoro at [rmontedoro@ntma.org](mailto:rmontedoro@ntma.org)**

### Upcoming Themes for The Record

**JANUARY**  
Vision for 2023



# PRESIDENT'S UPDATE

Writing a monthly article always reminds me of just how fast the months go by and how quickly a year goes by. I am amazed that 2022 is all but over. Some years we cannot wait for the end of the year while other years, we wish we could continue the momentum without a year end break. Regardless of what one we might prefer, the end of the year is here and it is time to wrap up the current year and more importantly prepare for the new year.

Many times, to prepare for the new year you have to analyze the good, the bad, and the ugly; better said as the successes, failures, and the non-completed when reviewing the year. Often the analysis of looking back can help focus on the path of the future. Personally, having ran manufacturing businesses and now running an association the same process holds true for both.

With that said, and the fact that NTMA is **your association**, I am going to provide the year end analysis with you in this article. So here goes!

## IT'S ALWAYS FUN TO START OFF WITH THE SUCCESSES FOR WHICH I BELIEVE NTMA HAS MANY:

- NTMA for the first time in many years will end the year net positive on membership growth. That means our membership has stabilized post pandemic and new members are joining. For those that have left the organization, many were unwilling to make an effort to be part of our manufacturing community or not willing to make an effort to utilize the opportunities, services, or peer to peer network afforded them. Our hope is that with our growth and outreach they will return and re-join our community.
- NTMA has added new staff in an area that has not been filled in many years and that is "marketing." With the addition of our Creative Content Manager and our new Marketing Specialist, we hope you the members have noticed our presence on all platforms of social media as well as in our events promotions and follow-ups. We will continue to work to enhance our effectiveness in our overall communications to members.
- Whereas severely delayed, we are excited that our new Association Management System is being finalized for a first of the year launch. This will allow you the member to access your account, for paying dues, for registering for events, for updating contacts, etc. This will also enhance our ability to better update you our members.
- NTMA purchased and has been working to prepare the launch of our new NTMA On-Line Communication platform which we have branded "NTMA Connect." We are targeting a first of the year launch. This will allow for different segments of our membership to have position specific (owners to owners; CFO's to CFO's, Emerging Leaders to Emerging Leaders, etc.) lines of communication across the entire membership. Meaning you can write questions, challenges, or problem-solving solutions and ask your NTMA industry peers for answers or input. If utilized, this has the potential to be a powerful tool for all member companies.
- Our list of Industry Partners continues to strengthen and bring value to our members. Whether it is Sales & Marketing support, ERP support, Quoting/Estimating support, Business Operations support, Electrical Power support, as well as providing a multitude of rich discount programs, they are only improving.
- NTMA and NTMA members are being recognized more as industry leaders of our field. NTMA members have been highlighted on industry podcasts, panels, IMTS Showcase, honored as Top Shops, recognized and engaged in local, state, and national governmental discussions on small businesses and workforce issues.
- NTMA as an association is being recognized as the "Voice" of the US small/medium contract manufacturing industry. NTMA has become a trusted partner to speak on our industry. In 2022 NTMA attended two events at the White House, even though we are an outsider on many of their initiatives, they know we play a critical role in our nation's economy, employment, and workforce development challenges and include us in the discussions.
- Our continued partnership with Franklin Partners and Bracewell Policy Resolution Group again contributed to many wins on Capitol Hill. From defeating many "non-friendly" business regulations and taxes, and getting a few good ones over the finish line, their contribution to our member's businesses cannot be over looked or undervalued.

- In 2022 NTMA transitioned from Multiview and our branded newsletter “E-Trends” to The Association Partners (TAP) and our new branded newsletter “Machine Shop Weekly.” This is a weekly on-line publication that highlights industry related articles and NTMA specific events, information, and announcements.

It is these successes that we will build upon and enhanced as we enter 2023. As with any successes there are also failures. Whereas not as long of list (thankfully), we will analyze them and look to improve them as we enter 2023.

**OK... SO HERE GOES ON THE FAILURES OR LET'S SAY OPPORTUNITIES FOR IMPROVEMENT. (PRIMARILY FINANCIAL)**

- Financially, one of the big misses for the year was an overly aggressive “Member Growth Target.” We budgeted for 61 net new members and we will end up the year at around 15 net new members.
- As we transitioned back to in-person conferences and summits, member attendance did not comeback as planned or anticipated. Engage 2022 had the smallest attendance as a percentage of planned attendance of about 1/3 which resulted in a \$100K negative budget swing. Obviously, we have to better analyze and understand member's appetite for these events. While attendance was lower than expected, surveys from those who attended events rated them extremely effective, and worthy of their time.
- The demand for workforce development tools from NTMA; NTMA-U, Aptitude Test, and textbooks were much lighter than budgeted and anticipated. This seemed to hold true industry wide for many who provide similar type services.
- We had some unplanned staff turnover at the national office that resulted in some unplanned and unbudgeted salary adjustments to current staff.
- Last but not least, no different than each of our members' companies, the unplanned and

unbudgeted increase costs due to inflation, contributed to our financial challenges for 2022.

- NTMA after a three year run of finishing in the black, will end the financial year with a loss. Whereas much of the loss will be due to unplanned expenses, some of the loss is due to investments that have been made in NTMA and will pay dividends down the road.

**NOW LET'S FOCUS ON THE PATH FOR THE FUTURE IN 2023.**

- Membership growth will remain a primary focus but at a more realistic net growth number of 31 for 2023. Along with growing our National Associate Members and Educational Members.
- New Staff, new Association Management System, new Community Platform, will be launched and in use. The key is that you the members engage in their capabilities to help and service your company.
- The focus to bring on new, effective Industry Partners that can help enhance your businesses will continue.
- We will continue to promote our members and NTMA as industry experts in the precision manufacturing sector; locally, statewide, and nationally.
- I am excited to announce that the International Tech Tour is BACK in 2023. Yes, our partners have put together another Tech Tour for our members to visit factories and shops in Europe. The dates will be May 6-13. We will start in Munich and end in Zurich. Member costs will be an administrative charge plus your transportation to and from. Our partners will pick up all costs while there. Attendance will be limited to 20 (not including spouse if attending) and first priority will be given to first time Tech Tour attendees. Let Kristen Hrusch know if you are interested as more detail will be out soon.
- I am also excited to announce our first ever NTMA Emerging Leaders Cohort “Leadership Development.” This will be a 9-month program,

for two hours per month. Seven of the months will be virtual and two of the months will be face to face in conjunction with the Emerging Leaders Conference and will conclude at the Engage 2023 Conference where the Emerging Leader Cohort will be recognized and awarded Certificates of Completion. Cohort size will be a min of 10 persons and a max of 20 persons. The cost per attendee will be \$2700 and will include registration to both face-to-face meetings. The Cohort will begin in February.

- Last but not least our focus for 2023 will be on “YOU THE MEMBER” and how we can bring you greater value, enhance your business, and build a community that allows us, together, to highlight our importance and contribution to US Manufacturing.

As I close the year with this article, I hope it will encourage you to engage and participate in your NTMA community. For me, having spent my entire career in this industry, the successes I experienced were based much more on those I surrounded myself with, and the manufacturing community I was a part of, rather than anything I or our company did on our own. We took those ideas, thoughts, suggestions that we learned from our NTMA community and utilized them to enhance our company as a result.

As individual companies we are a mere flicker in the big scheme of things in US manufacturing, but together we are a bright light for all to see, acknowledge, and appreciate. **Our industry is an unknown power that our nation cannot live without.** It is up to us to join together for the good of our companies, our industry, and our nation. So, when valuing NTMA's ROI to you and your company, consider the “COMBINED VALUE OF OUR MANUFACTURING COMMUNITY” and then consider the other values and benefits that NTMA brings and offers your company.

My only ask of you for 2023 is to “ENGAGE IN YOUR NTMA COMMUNITY.” It will pay dividends, seen and unseen.

**There is Strength in Numbers.**



Roger Atkins, President – NTMA

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# MANUFACTURE YOUR LEGACY

“As a career long member of NTMA, I’ve been a beneficiary of industry talent funded in part by the NTMF. My business(s) have benefitted from the foundation and it is my desire to pay forward to future generations of precision machinists through a legacy donation. Including NTMF in my estate planning was easy and feels great. I’m comforted knowing that future generations of machinists will be possible through my lifetime and legacy commitments to NTMF.”

Eric Hagopian, President/CEO - Pilot Precision Products

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**Contact Bill Padnos, NTMF Executive Director for more information.**

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# NEW MEMBER HIGHLIGHTS

## KAISER MANUFACTURING Central at Large Region



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## MULTI-AXIS TECHNOLOGIES, LLC Western at Large Region



Multi-Axis Technologies, LLC is a precision machine shop established in 2021 by Jay Simpson and Daisy Kelly with a combined experience of over 55 years with manufacturing and supply chain management. We offer precision CNC machining and design for manufacturing services for rapid prototyping, low-rate production focusing on a low volume high mix model. We service a variety of industries including Space, extraction vessels, abrasive cutting machines, and much more, machining all types of material from exotic metals to 3D printed parts. At Multi-Axis Technologies, our motto is "The Highest Standards Driven by Passion." We strive for excellence in all that we do and are passionate about collaborating with our customers utilizing our advanced technologies, strengths, and expertise to develop and deliver superior product and services. We are here to help people make their designs come true.

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Project MFG is a program of the Global Learning Accelerator Inc., a 501(c)3 nonprofit, funded in part by the Department of Defense, and operated and managed by RD Solutions, LLC. The mission of the Global Learning Accelerator is to develop exciting and innovative learning opportunities that inspire students and participants to explore and pursue their passions for lifelong success.

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Wakeland Engineering is a Veteran Owned small business. We began in 2018 as an Engineering Firm (registered in Texas) providing consulting services from our home office. We were motivated to begin manufacturing by requests from customers citing lack of technical expertise and limited product availability. We have moved into a small facility and expect to grow into a larger facility within the next year as we expand our manufacturing capabilities.

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## IN MEMORIAM - ROLAND L SUTTON JR.

Roland L Sutton Jr., 94, passed away peacefully at his home in Bentley Village - Naples, FL on Friday November 4th with his wife, Nancy, of 69 years, and all of his children and grandchildren present in celebration of his life.

Roland earned a B.S. degree in Mechanical Engineering from Michigan State University and after graduation, went to work for Burgess Norton Mfg. Co. in Geneva, Illinois. Soon thereafter, his job was interrupted as he served one tour of duty as a 1st Lt. in the Army Ordinance Corps. in the Korean War. It was through a chance friendship with David West, while serving in Korea, that he became aware of his future wife, Nancy, who happened to be David's cousin. A blind date sealed the deal!

Soon after their marriage and the births of two of their four children, they moved to Maine, a favorite long time summer refuge for Nancy's family. This move provided the ideal place for them to raise their growing family and for Roland to co-found Maine Machine Products Company with his childhood friend Bill Detert. Roland and Bill ran the company together for twenty-five years providing good paying jobs and supporting the local community.

Professionally, Roland served on boards and committees of the MMPA, SBANE, JMG, BTMA, and the NTMA, the national trade association for the tooling and machining industry, where he served as Chairman from 1996 – 1997. He was also a longtime volunteer with SCORE.



Roland is survived by his daughter, Meg Sutton and husband, David Styrzczula, son, Jeff and wife, Kim Sutton, son, Dave and wife Kathy Sutton, Son, Ted and wife Judi Sutton, his grandchildren Ethan Sutton (wife Mary), Zach Sutton (partner Renee), Kaylene Sutton, Matt Sutton, Nick Sutton, Jami Hayden (husband Sean), Shannen Styrzczula, and great grandchildren, Roczen Sutton, Elianna and Ethan Sutton Jr.

## NOTEWORTHY NEW DIGITAL MANUFACTURING PRODUCTS INTRODUCED



Continuing to focus on enabling digital manufacturing in the machine tool world, HEIDENHAIN, the international leader in precision measurement, introduced many exciting new products in 2022.

### HIGHLIGHTS INCLUDED:

#### HEIDENHAIN's Next Level TNC7 Control

Entering a new level of shopfloor-centered manufacturing, HEIDENHAIN unveiled the new TNC7 control to North America at IMTS in September. Developed fresh from the ground up, this standard-setting CNC supports users from initial design to final machining, from one-off jobs to serial product, and from simple slots to complex contours.

#### TD 110 Tool Breakage Detector

Specially designed for quickly sensing tool breakage during use within a machine tool, HEIDENHAIN introduced the new TD 110 Tool Breakage Detector. Providing contact-free inspection of drill bits and end mills, it can determine whether a tool is broken off by more than 2mm as it passes within a machine tool, yielding significant time and money savings.

#### StateMonitor and PlantMonitor

Made available to boost manufacturing efficiency on the shopfloor, HEIDENHAIN offered an updated version of StateMonitor, a software platform enabling remote monitoring and data evaluation during real-time

manufacturing. StateMonitor can connect many varying machine tools as long as one is a TNC. And the new PlantMonitor is the next step that allows connection of multiple company locations.

### MEDIA CONTACT:

Kathleen Herrmann, K-Pro PR, Inc.  
kherrmann@kpropr.com or 224-520-0665

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## BLASER AWARD CELEBRATES MANUFACTURING PRODUCTIVITY

This year marked the return of the Blaser Swisslube “Productivity Trophy Award” during IMTS 2022. The event celebrates notable productivity improvements and highlights the significant impact of metalworking fluids in the manufacturing process.

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“The Productivity Trophy is about celebrating remarkable achievements of our customers and our business partners”

---

Coolant is an often-overlooked factor on the shop floor. However, the right metalworking fluid for the situation, when used and monitored correctly, can provide measurable benefits. It can help manufacturers finish more parts in the same time, extend tool life, and reduce unpleasant maintenance tasks.

“The Productivity Trophy is about celebrating remarkable achievements of our customers and our business partners,” said Carsten Witthuser, Managing Director, Blaser Swisslube Americas. “Sometimes these accomplishments, while highly beneficial and profitable for each organization, are not recognized as much as we think they deserve to be.”

As a long-time National Associate Member, Blaser Swisslube provides NTMA members with free technical support and applications assistance to find the right metalworking fluid for their situation, with the goal of achieving measurable improvement results as well as total operating cost savings. [www.blaser.com](http://www.blaser.com)

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## DMG MORI MANUFACTURING USA, INC. 10-YEAR ANNIVERSARY

On this year's National Manufacturing Day, DMG MORI Manufacturing USA, Inc. celebrates 10 years of manufacturing excellence in Davis, CA.

On October 7th, 2022, DMG MORI Manufacturing USA Inc. (DMM) celebrated the 10-year anniversary since their grand opening in Davis, California. This location is home to some of the latest automation technology, as well as Horizontal Machining Center (HMC) excellence. Since 2012, over 3,100 machines have been manufactured and sent to customers all over the USA, Canada, and South America; this includes NHX series, the ALX series, and the CMX V series.

The NHX series, a high precision and high-speed horizontal machining center is capable of high-efficiency, continuous machining for various industries including automotive, aerospace, machinery, and other mechanical equipment. The latest models in the series are equipped with thick rigid beds that provide maximum stability and come with powerful spindles ranging from 8,000 to 30,000 rpm.

The CMX V series, a vertical machining center that offers top-class milling performance and is known for its meticulous attention to detail, is also manufactured at DMM. With the ability to provide robust machines that can serve more customers for a longer time, these models have been revered as highly reliable and versatile in many industries.

While the amount of growth in technology present at the factory has been significant, there has also been development with building the skillset of the local workforce in the community. In fact, the amount of expatriates working at DMM decreased by 70% from 2012 to 2022. Anthony Serra, Executive Vice President of DMM, stated, "When the factory opened in 2012, a great deal of employee's were expatriates from Japan with specific skillsets. However, we have since expanded and trained the workforce here at DMM. We now have a large amount of local skilled employees from our own community."

In addition, DMM has become one of the most automated facilities in America that manufacture



The DMG MORI Manufacturing USA, Inc. team behind the local production for the USA.

machine tools and has been monumental in educating USA customers about the benefits of investing in automation. Automation solutions has been an imperative focus of the factory and has helped customers save time and become more competitive.

Customers can experience the Linear Pallet Pool systems (LPP) and Round Pallet system (RPS) which are both produced and manufactured in Davis, CA. Executive Vice President of DMM, John McDonald, stated that, "Automation has been a key element of digital production at the Davis Factory. The Linear Pallet Pool system that is manufactured here in Davis can be equipped with multi-level pallet racks to accommodate a higher level of automation. A substantial amount of customers are astonished by the level of convenience this technology can provide while they are engaging in other tasks."

Though advanced technology has been a major factor in the evolution of the factory, President Marlow Knabach attributes much success to employees that have contributed their knowledge and hard work to further progress DMM. He stated, "It is only with the effort of our employees at DMG MORI Manufacturing, USA Inc. that we have made pivotal strides to become an industry leader with a strong presence in the local communities."

It is important for DMM to contribute to organizations and initiatives in the local community. To cultivate and encourage Science, Technology, Engineering, and

Mathematics (STEM) education, DMM hosted various events for local organizations such as Boy Scouts, Citrus Circuits Robot Team, Explorit Science Center and several other organizations. In fact, the 10-year anniversary was attended by several important figures in the community such as the Mayor of the city of Davis Lucas Frerichs, Councilmember Gloria Partida, Councilmember Dan Carson, City Manager Mike Webb, Senior Planner Eric Lee, Police Chief Darren Pytel, Director of Community Engagement Jenny Ten, and Communication Manager Barbara Archer. Mayor Frerichs, the keynote speaker of the ceremony, acknowledged the strong presence that DMG MORI holds in the city and spoke about how proud he was to have been present at the grand opening back in 2012.

DMM has also made it a top priority to deliver sustainability in efforts to contribute to a healthier environment. This includes approaching 100% carbon neutral production and the installation of a 2,000-kilowatt solar panel system on the roof of the factory currently in progress to significantly reduce energy consumption.

As the factory continues to expand, DMM looks forward to continuous success and advancement in technology as well as the community.

# DMG MORI

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## WESTERN MASSACHUSETTS NTMA CHAPTER AND BOULEVARD MACHINE PARTNER TO CELEBRATE GRAND OPENING OF NEW FACILITY

On Thursday, September 22, Boulevard Machine hosted an Open House and Car Show at their new, modern facility located at 326 Lockhouse Road in Westfield, Massachusetts.

A woman owned business, acquired by Susan Kasa in 2006, Boulevard Machine provides cutting-edge manufacturing components for aerospace, defense, outer space and other technical markets.

Boulevard has more than 20 employees and supplies parts used in Elon Musk's advanced Space X rocket and Amazon Founder Jeff Bezo's Blue Origin spacecraft. Other customers include Boeing, Collins Aerospace, General Dynamics and Parker Aerospace.

The event, partnered with the Western Massachusetts Chapter of the NTMA, hosted more than 100 attendees- including members of the Connecticut Chapter, Mayor Michael McCabe of Westfield, Instructors and Students from local vocational technical high school manufacturing programs and friends & family of the manufacturing community.

The Kasa family offered tours of their facility, many sponsors displayed their services and attendees had a great networking opportunity during the event while viewing classic cars.

**Angie Beavis**

Executive Director - Western MA Chapter NTMA



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# CREATING AN AMAZON-LIKE EXPERIENCE FOR MACHINE SHOP CUSTOMERS

By: Paul Van Metre, ProShops

2022 has been a year of massive growth for many CNC machine shops, with many of them setting new shipping records month after month. It's so busy that it's been hard to keep up with the pace of the demand, requiring long hours and missed time at home with family. It's a wonderful problem to have (better than the alternative, I always say). But it's still a problem that needs to be solved.

It's exciting to be so busy, and it's hard to say no to new orders and opportunities for growth and coming through as the hero for your customer when they have a hot order. And you don't want to have them go looking for another vendor because you can't accept the job. But there can be a shadow side to saying yes to too much business. Burnout is real, and shop owners need to take a long-term perspective to protect their mental health and that of their employees.

Many shop owners don't do a good enough job of thinking creatively to help solve the issue of overload, relying on just working harder to get the job done.

## Inspired by the Amazon Shopping Experience

The old adage of "work smarter, not harder" was on Justin Quinn's mind when he was trying to figure out how to keep up with the demand of his customers who constantly wanted to know the latest status of their jobs. His shop, Focused on Machining, near Denver, Colorado, had a year of record growth, and the sheer volume of work was overwhelming.

This idea of working smarter also aligned well with his idea of having his customers' experience be similar to his experience when he bought things on Amazon. He loved how when he purchased on Amazon, and how he'd always get alerts about the latest status of his orders.

He wanted to recreate that experience for his customers, which would reduce the number of times they would need to email or call him weekly for an order status. This change would provide them with the

Amazon-like experience from Focused on Machining with the peace of mind that their order was on track for on-time delivery.

## Creating an Amazon-like Experience using Technology

Justin learned that his ERP system, ProShop ERP, had a new API that allowed the system to interact with other software products and offered end customers a way to build creative solutions. Justin had the idea that he'd like to offer his customers automatic email notifications on their order status as the jobs progressed through the shop, to outside processing, and then as they shipped to the customer.

ProShop already had an email confirmation form that could be emailed to clients but nothing to alert clients of the progression of orders through the shop. Justin knew of a software developer who also had previous experience in a machine shop, so he hired him for a project to create email alerts when specific operations were checked off on the shop floor. The developer built a small application that queried the ProShop application when specific operations were checked off.

The application would then send a status email to the buyer's email address (see image for an example).

It took a couple of weeks to get the developer up to speed with what Justin wanted, connected to the API, and familiar with how it worked. But once everything was in place, it took only 2-3 days for the developer to deliver the first working version of the application. Once they started testing things, it revealed some minor issues that needed to be fixed.

In some instances, the machinists weren't signing off work order operations until the end, when they would check off many at once. In those instances, the client would receive 2-3 emails all at the same time. So the new integration revealed a lack of discipline and housekeeping items that are good to have resolved anyway.

## Happy Customers and Fewer Distractions!

Customers have shared how much they love the emails: "This is great! Love the updates and transparency. This will allow our team to see where we are with production and allow for proper planning." Customers are calling and emailing him less often because they already have the peace of mind that their order is progressing smoothly. That leaves more time for Justin and his team to focus on throughput and growth, exactly what a shop owner should be spending time on.

Dear Customer,

Woohool Your part has just completed the first machining operation of your specific manufacturing processes. We're going to continue manufacturing and will let you know if we have any issues along the way.

Best regards,  
The Focused On Machining Team

WO #: 22-0538

Customer: [REDACTED]

Op #: 50

PO #: [REDACTED]

Part # [REDACTED]

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## GENERAL TOOL COMPANY CELEBRATES 75 YEARS OF MANUFACTURING EXCELLENCE

General Tool Company is one of the leading precision metalworking manufacturing firms in the Midwest. This third-generation family-owned company continues to earn its reputation every day by supplying "Mission Critical" systems to the world's leading Defense and Aerospace companies.

GTC was founded by William J. Kramer, Sr. to support the Cincinnati area manufacturing industry. Mr. Kramer received his apprenticeship certificate for machining at the age of 19; and, eventually, became the "Metal Trades" instructor at St. Bernard High School. He became a leading advocate of vocational training in the city and in various national metalworking trade associations as well.

To gain practical experience, students made parts for local companies such as Procter and Gamble. With encouragement from his contacts at the larger manufacturing companies, Bill started his own machine shop in 1947 with 6 employees in a 5,000 square foot building in the suburb of Reading, Ohio. General Tool Company is still in the same location,

but the company has grown to 275 team members occupying 5 buildings that total 300,000 square feet.

From industrial equipment to space exploration, General Tool has manufactured a wide array of components and systems for a diverse customer base over the past seven and a half decades. Today, the work on the factory floor includes prototype aircraft engine hardware, carbon fiber parts for the F-35 Stealth fighter, 40-ton electrical generators for US Navy ships, radar systems, Aircraft Carrier Launch systems and Nuclear Submarine components. The company is led by Gregory A. Kramer, Chief Technology Officer and his brother William J. Kramer III, the company's President.

Bill commented that, "We understand the importance of our mission and our customer's mission and take pride in providing hardware that protect American warfighters every day around the world. Our clients demand the highest level of quality and accountability, and our skilled workforce delivers." General Tool Company continues to grow through

investment in the facility, equipment and employee development and is looking forward to achieving great things in partnership with its customers for many years to come.

To celebrate the anniversary, GTC has planned a variety of in-house events and speakers that highlight the company's history and contributions. For more information, go to [www.gentool.com](http://www.gentool.com)



**GTC** GENERAL TOOL COMPANY

[www.gentool.com](http://www.gentool.com)

## ONE VOICE: FEDERAL GOVERNMENT ADVOCACY PROGRAM

As US manufacturing continues to navigate the unique challenges and changes brought on by the last year – and a change in administrations – it remains important to have a partner in advocacy. NTMA helps provide this support by working closely with the team at One Voice: the combined federal government advocacy program representing small-and medium-sized business manufacturing in the US.

With regulations, policy, and shop safety all constantly evolving, One Voice has a wealth of fantastic resources, developed to help keep your shop informed and prepared for whatever comes next. In addition to ongoing COVID-19 response information – in line with any and all changes that our industry may need to know – the team at One Voice also

provides informative policy webinars, news releases, educational materials, video recaps, and much more. Don't forget about the Talking With One Voice podcast – every episode, the One Voice advocacy team breaks down how the latest news from Washington impacts manufacturing businesses across the country.

It's yet another way your shop can get quick, concise information on everything from tax development to loans and even workforce development issues. You can send in your key questions to be answered by emailing [onevoice@policyres.com](mailto:onevoice@policyres.com). We hope you continue to utilize this key partner in One Voice – one that ensures that millions of manufacturers across the country have their voices heard.

Please visit [www.metalworkingadvocate.org](http://www.metalworkingadvocate.org) for more information.

**www.OneVoiceInfo.org**  
ONE VOICE COVID-19 (CORONAVIRUS) RAPID RESPONSE WEBSITE

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- Keep your workplace safe
- Find resources for workers
- Get tax and loan information
- Stay on top of government directives

A JOINT EFFORT BY NTMA AND PMA

# PITTSBURGH'S BOTS IQ INTERN PROGRAM MARKS SUCCESSFUL SUMMER

By: Maria Campieri, BotsIQ Youth Services Manager

"When we took a look at our existing workforce as well as the workforce we were recruiting, we noticed a couple of things: our existing staff was aging up and retiring and our method of recruiting needed to adapt to the current labor shortages everywhere," explained Jessica Gardner, the human resources manager at General Carbide. "

By taking on interns, our skilled staff could transfer their knowledge to a younger generation AND the interns could teach us new skills." General Carbide was one of 10 manufacturing companies in the Pittsburgh area to employ a summer intern through Pittsburgh Chapter NTMA's BotsIQ.

participants to grow their professional network, improve career-readiness skills and earn industry credentials through custom onboarding and professional development days.

"Our expectations of our interns were that they trust our process, show up for work and be open to new tasks. We really wanted to push our interns to stretch out of their comfort zones and be a part of our work processes every day." said Gardner.

BotsIQ connected General Carbide with Caitlyn Razo. "I wanted that hands-on experience, and I knew internships were the best way to learn, apply myself

The summer 2022 cohort included 12 interns, 6 of whom graduated from high school in June and 6 post-secondary students. Eleven of the interns had previous BotsIQ connections as competitors or volunteers.

BotsIQ coordinates training for interns to earn two industry recognized credentials - OSHA 10 General Industry Safety and Health and a Catalyst Connection Lean Certification. Financial support is provided by the PA Department of Community and Economic Development and Westmoreland Fayette Workforce Investment Board.



Group Photo

BotsIQ is the Pittsburgh Chapter's flagship workforce development program. Their goal: to provide a pathway for youth to learn about rewarding career options in manufacturing. While the program hosts many different educational opportunities, they are best known for their signature combat robotics program that begins in the fall and culminates with final battles each spring. However, BotsIQ's workforce development programs do not end when the school year is over.

Summer 2022 marked the second cohort of BotsIQ summer interns. The internship program was designed to continue connecting talented students with industry partners after high school graduation. Internships are available to 18–22-year-olds with an interest in pursuing a career in the manufacturing industry. The internship provides opportunities for



Interns tour General Carbide during a Wednesday Professional Development Day. Tour led by Mike Bulebosh.

and get that head start in industry," said Razo. The pairing turned out to be a great match. While she completes her senior year at Pennwest California University, Razo stayed on to work part-time at General Carbide as a mechatronics technician.

"This has opened so many more doors for me," Razo said. "It showed me how involved I can be with automation within manufacturing and how I can intertwine my engineering major with it and work towards my dream goal of animatronics." Gardner said that adding interns into their operation brought a new depth to the General Carbide family. "Our workforce embraced them and worked to help them be the best they could be. It was really an incredible thing to watch, and we cannot wait for more!" Gardner said that the company managers are already asking how many interns they will have next summer and when they can start.



Interns receiving OSHA 10 Training. Instruction was provided by Fran Sehn with the Western PA Chapter American Society of Safety Professionals.

Aethon, DMI Companies, General Carbide, Hamill Manufacturing, Heartland Fabrication, Jatco Machine & Tool Co., Inc., L&S Machine Company, MetPlas, Penn State Tool & Die, RETAL all hosted interns in the summer of 2022. Razo wasn't the only new hire from the program. There were three permanent job offers extended to summer interns.

"I'm so thankful I took those first steps of putting myself out there and trying my interest and seeing how I can apply myself!" said Razo. Gardner summed it up, "They brought fresh eyes to projects and asked questions that we may have missed. It was a win-win!"



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# 10

## Reasons Manufacturers Need Software & Technology

By: Adam Grabowski, Director of Marketing  
Global Shop Solutions



[www.globalshopsolutions.com](http://www.globalshopsolutions.com)

Global Shop Solutions' core values are to love, serve, and care for our customers. We help them simplify their manufacturing and deliver a quality part on time every time. Here's what our customers identify as the top 10 reasons they continue to use ERP software and technology.

### ABOUT THE AUTHOR

Adam Grabowski is the Director of Marketing at Global Shop Solutions. He is responsible for translating the company's business objectives into successful brand, marketing, and communication strategies to drive awareness, revenue, and loyalty.

Master your business and delight your customers with Global Shop Solutions ERP software. Call us today at 800.364.5958, or set up an appointment online.

### 1) PARTS MOVE THROUGH THE SHOP FASTER

When you get parts through the plant faster, customers will order more and your shop will look like this:

- Schedules are efficient and accurate, based on true capacity
- Machinists always know what to work on now and next
- Know exactly what you have in inventory and where
- Instantly know the status of all jobs in real time
- Correct quality issues in real time instead of afterwards

### 2) SCHEDULE AND DELIVER ON TIME

Efficient, accurate scheduling lets you deliver on time, manage change, and uphold promises to your customers.

You can also:

- Correctly estimate lead times
- Know your true capacity for machines, workcenters, and personnel
- Identify production bottlenecks in real time
- Instantly see how inserting a job into the schedule will affect other jobs
- Know the status of all jobs in real time

### 6) MAINTAIN ACCURATE INVENTORY

Knowing jobs are never late from lack of materials or more expensive than they should be reduces risk. Precise inventory management looks like the following:

- Lot bin tracking enables complete traceability of parts
- Physical inventory counts are fast and accurate
- Barcoding all material lets you know exactly what you have in inventory and where it is
- Rarely pay expedited shipping charges for incoming material
- Jobs are never late due to lack of raw materials

### 7) CONTROL COSTS

With ERP, shop floor operators can log on and off jobs and job sequences without leaving their work stations. Collecting time and performance metrics becomes fast, efficient, and accurate, which allows you to reduce and control your labor costs.

- Track labor down to the minute for jobs and job sequences in real time
- Reduce indirect costs by holding operators accountable for their time
- Track the number of hours in each job in real time
- Cut admin overhead costs by simplifying & automating back-office processes
- Minimize overtime by reducing rework, overdue jobs & waiting for parts

“ Thanks to Global Shop Solutions, Becker Electronics, Inc.'s on-time delivery rate has nearly doubled – from an average of 50% to a consistent 99%. They attribute the remarkable increase to two key factors – the improvement in scheduling and production processes and the visibility of data throughout the system.”

– Becker Electronics Inc.

### 3) ACHIEVE 99% QUALITY RATING

Consistent near-perfect quality makes it easier to win more jobs and earn and maintain ISO and other quality certifications. Engineers and machinists can:

- Always work off the correct document versions
- Identify bad parts as they are made (rather than during or after shipping) and view in a single dashboard
- Take and document cause and corrective actions in real time
- Trace every part with 100% accuracy as it moves through your shop floor
- Easily produce quality documentation for ISO and other compliance auditors

### 4) GROW SALES

Software provides a hidden return: sales growth from delivering a quality part on-time every time and knowing your bids are competitive, profitable, and margin-true.

- Sales orders are accepted and work orders sent to the shop floor within minutes
- Answer any customer question in a single phone call from a single screen
- Knowing job costs and margins enables precise estimating and quoting
- Access entire sales history instantly by customer or part number
- Take on more work without increasing administrative overhead

### 5) KNOW JOB COSTS

When you can trust your costing process, you know how much each job costs. Fast quoting and accurate pricing brings in new customers and brings back existing ones.

- Track direct labor down to the penny – for each job and job sequence
- Track material costs in real time as jobs move through production
- Compare actual vs estimated costs while the job is in progress
- Know exactly what you have in inventory and what it cost
- Know margins are correct by knowing your true costs

### 8) GREAT CUSTOMER SERVICE

Lets you go beyond merely upholding promises and stay one step ahead by anticipating customer needs and having all the information you need when they ask.

- Access all customers from a single dashboard
- From PO history to WIP, drill down into any information about a customer from a single screen
- Automatically alert you or your customer when critical events happen
- Customers don't wait for answers because employees have access to all the information they need in one system
- Customers can answer questions about orders (such as WIP or shipping status) from a mobile app with your branding

### 9) COMPETITIVE EDGE WITH TECHNOLOGY; EASY CUSTOMIZATION

ERP technology lets machines, systems, and devices do much of the work employees used to, allowing them to focus on decisions, thinking, and improving the business. Customize into the system what is special about your manufacturing. With Global Shop Solutions ERP you can:

- Have TVs throughout the shop floor broadcast TrueViews™ so employees know job status in real time and what to work on next
- Use tablets at each workcenter make collecting labor easier and more accurate
- Move material faster using RFID, labels and handheld scanners
- Have all systems, from expense collection to machines and tooling, are integrated with your ERP system
- Get rid of manual spreadsheets to store data because everything is in your ERP system

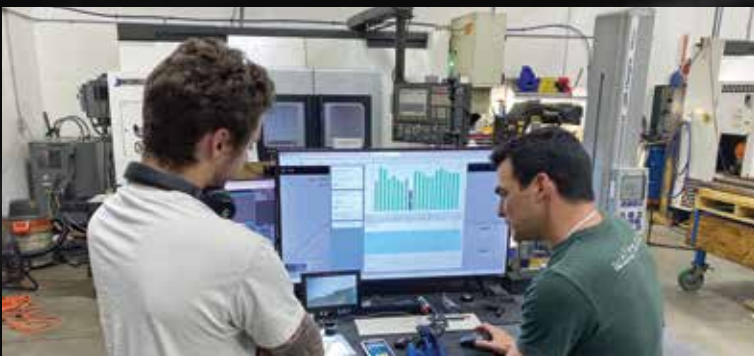
### 10) ALL COMPANY DATA IN ONE SYSTEM; ALWAYS ACCURATE

Make better decisions and manage proactively based on data you can trust to be true. Know right away when something critical happens in the business, like a new deal, completed shipment, or accounts paid.

- Easily find jobs that were well below margins
- Review dashboards that show real-time shop, inventory, and labor data
- Use KPIs to learn whether you're meeting, exceeding, or lagging industry standards
- Improve accountability throughout the shop floor
- Justify price increases to customers by showing your costs

# USING DIGITAL TECHNOLOGIES TO ATTRACT A YOUNGER GENERATION OF EMPLOYEES

By: Chris Swaim, Director of Strategic Initiatives - Wolfram Manufacturing



Shop programs in middle and high schools have been disappearing for years as students have been urged to pursue four-year degrees. As a result, fewer young people enter trades like machining. As the baby boomer generation retires, the workforce dwindles post-pandemic, and the nation works to reshore manufacturing to the United States, manufacturers are struggling to find workers motivated to jump into manufacturing.

To combat competition and wage pressure from companies like Amazon and fast-food chains, manufacturers should leverage new digital smart manufacturing tools to attract and educate a new generation of workforce, empowering them to leverage data to perform a job that previously relied upon long acquired skills.

## YOUNGER GENERATIONS WERE BROUGHT UP ON SCREENS

Many new software-based tools have been developed to help people communicate instantly and make rapid decisions with data visibility. For those newly entering the workforce, using digital tools is second nature. Many of these students move into manufacturing environments that lack modern digital tools. When new technology is deployed into an organization, seasoned employees may be slow to adopt, whereas younger employees are ideal champions for new technology. Unbiased and unhindered by years of 'how we do it' attitudes, younger employees can let results speak for themselves. They often have basic programming skills and are familiar with setting up networking infrastructure and API integrations which help connect devices and software within a shop.

Younger employees who use digital technologies to drive results find the work rewarding and are more motivated and engaged than they are with traditional manufacturing jobs. Often these methods lead to explosive career paths as the impacts of new technologies often result in a step change in productivity and profitability. Not only do we use digital technologies to boost our own shop's efficiency, but we also help our customers do the same. The shops that are most effective in

deploying new technology tend to have two common attributes up front and two distinct stages where they see significant results after implementation, productivity, and profitability. The first step to a successful deployment starts with an organizational mandate to gain efficiency through new, digital tools. Upfront organizational buy-in is required to enable capital expenditures and ease friction when changes are brought into existing processes.

Having a champion that drives the implementation and day-to-day adoption is the second key to successful deployment. While it's not necessary that the champion be younger, we find that younger employees are often most effective at leveraging a new technology to its maximum potential. Older employees often try to fit the new technology into an existing process that limits its functionality or output instead of using the data to reinvent or drive new ways to approach existing processes. With easy access to digital data for cycle time, downtime, and spindle run time, it is ideal to leverage younger employees to calculate ROI for new equipment or tools to increase productivity without resorting to a new machine purchase.

### DIGITAL TECHNOLOGIES ENABLE A FASTER LEARNING CURVE

Traditionally, the experts in a CNC machine shop were old timers with years of experience standing in front of cast iron... watching, listening, and feeling to understand what was happening inside a machine. This skill set requires years of experience, learning the hard way what works and what doesn't.

#### **Retaining Tribal Knowledge**

Retaining tribal knowledge takes time and is usually built upon experiences that the operator 'learned the hard way.' Wolfram leverages our machine monitoring and production management software, OnTakt, to help capture this type of information within our own production shop. The software is built with a combination of features that auto-populates certain activities (like machine alarms, tool changes, etc.) and options for an operator to easily add contextual information for future use.

Notes may be added throughout our OnTakt software. Notes can add contextual information to an individual component made, tool changes made on a machine, consumable and durable tooling, and maintenance tasks. Once entered, notifications are sent to team members through Slack or Microsoft teams. The result is traceable, usable information that can be used for collective learning, especially for new employees that need to get up to speed quickly, minimizing repetitive errors in the future.

Another simple method to track tribal knowledge in the shop is an internal Wiki. The dashboard of our OnTakt software can include a link to a Wiki that employees can use to capture information useful throughout the shop. The Wiki creates a QR code that can be printed and placed throughout the shop. For example, if there's a maintenance procedure that needs to be documented, it can be captured in the Wiki then accessed through the QR code on the shop floor. The result is an easy and lightweight way to document important knowledge from the shop floor which is also easily accessible without scrounging through a document control system or a user manual.

#### **Look, Listen, and Feel**

In our shop we leverage sensors and software any time we can to keep our machines running smoothly. It often takes years to be comfortable standing in front of a machine adjusting feed rates and spindle speeds to optimize a process. TMAC (Tool Monitoring and Adaptive Control) from Caron Engineering is an indispensable tool for this. TMAC uses high resolution sensors that monitor the horsepower of the machine. One reason an operator stands at a machining center is to stop the machine if something goes wrong. TMAC does this for us. The high-resolution horsepower sensors determine if a tool is wearing and stops the machine before a tool breaks.

TMAC records the data for every cut of every part which means that for every pass of every tool we can compare the horsepower used to make the cut. This type of data and high-resolution information is excellent for younger employees who do not have years of experience standing in front of a CNC machine. The knowledge that they gain from high quality data enables them to learn more, faster.

### BUILDING A CULTURE OF TRYING NEW THINGS

Although we can implement technology that enables younger employees to hone their skills, it isn't possible to do that everywhere. Unfortunately, learning the hard way is sometimes the most effective. Wolfram has built a culture where it's safe to try new things. We combine this with the ability to objectively evaluate a sunk cost and stop a process immediately if something is not working. Our OnTakt software keeps track of the root cause of an issue each time a machine stops unexpectedly, and we enable everyone in the company to make changes or updates to increase efficiency. The entire shop has access to CAD and a 3D printer, and we meet weekly to identify areas that can be improved. The result is a culture of bottom-up continuous improvement driven by what makes employees' jobs easier.

In addition to running a production machine shop Wolfram also distributes and integrates these smart manufacturing solutions for other shops. Most of our employees in the field who install and train customers with smart manufacturing tools have a background running CNC machines on our shop floor. By starting in the production shop before moving into installation and integration, they bring a deep knowledge of the tools we use every day, making them incredibly effective at installation and training.

Our employees are empowered to be proactive in areas of the shop of most interest to them, keeping them engaged and eager to learn something new. Whether it's helping to shape features of our OnTakt software, programming robots, or assisting with sales and marketing, we actively promote proactive learning that benefits the entire organization.



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# SOUTHERN CALIFORNIA NTMA MEMBER'S COLLABORATION DRIVES COMPETITIVE ADVANTAGE

## Advanced Manufacturing, Machine Monitoring & Artificial Intelligence

By: Zackary Smith, Partner, Mata Incentive

Axis Corporation and Mata Incentive have been working closely together fine tuning solutions that enable the journey towards 100% Operational Equipment Efficiency (OEE).

Axis Corporation was established in 1959 and continues to lead state-of-the-art manufacturing in CNC milling, turning, inspection and software. They are in the business of producing high quality machined parts and components for use in many specialized industries, including: Aerospace, Power Generation, Fluid and Gas Measurement, Medical Device, Automotive Aftermarket, and Military. As a business around for more than 60 years, it has been a constant evolution to ensure they remain best in class.

Their most recent endeavors have focused on adopting technology developed out of a UCLA PhD program which is now in production released and commercialized. That's where Mata Incentive comes into the picture. Mata was looking for factories to test and validate their technology two years ago and have now fine tuned it to the point where the benefits are driving direct value to profitability.

### How does Mata Incentive do this?

Mata Incentive is technology agnostic and understands no two factories are the same. They are able to create a central command center for managers and technicians alike through APIs of business silos (quoting, ERP, MES, machine monitoring) into an artificial intelligence engine, Arblt, and displays actionable insights through dashboards and alerts to maximize operational utilization for industrial manufacturing facilities.

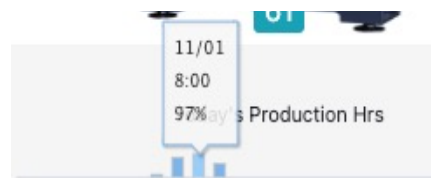
It is a hybrid approach tying together software, firmware and hardware through a cloud based Factory/Industrial Management Console. In this feature, we will go through some of the specific product features Axis has requested and Mata has implemented for their operations.



Axis works closely to pick equipment where high utilization is a requirement. Mata Incentive provisions a device for ethernet, WiFi or cellular for simple IOT connectivity. Once the device is installed on the machine, autocalibration takes place and is complete within 24 hours. Brian Grigson, GM leverages the platform interface to maximize efficiency in his operation.



Active machine status enables to remote monitor if a machine is off, idle or running. This enables a holistic view of your equipment in realtime without the necessity to 'walk the floor' to confirm. This can be done on premise or remotely.



Machine utilization is captured for each day and can be presented on the basis of percentage completed per hour to easily digest uptime versus downtime on each machine.

Machine ID	Machine Name	Machine Type	Machine Status	Machine Utilization	Machine Location
001	Axis Corporation	Turning	Active	95%	Shop 101
002	Axis Corporation	Turning	Active	88%	Shop 101
003	Axis Corporation	Turning	Active	72%	Shop 101
004	Axis Corporation	Turning	Active	65%	Shop 101
005	Axis Corporation	Turning	Active	58%	Shop 101
006	Axis Corporation	Turning	Active	52%	Shop 101
007	Axis Corporation	Turning	Active	45%	Shop 101
008	Axis Corporation	Turning	Active	38%	Shop 101
009	Axis Corporation	Turning	Active	32%	Shop 101
010	Axis Corporation	Turning	Active	25%	Shop 101

Part count reports and utilization reports are available which are leveraged in weekly performance review and daily standups to make sure targets against projections are met.



In the event a machine is not running. Idle alerts can be sent to a user of your choice by text or email. For example, the factory manager can be alerted for all machines and individual technicians can be alerted for the specific machine they are responsible for. Alerts can be set with a range of increments. Brian likes his alerts set to 10 minutes to maximize action on downtime.



The artificial intelligence engine cross references operator productivity against machine utilization to show performance on a per machine or per job basis.



Data rich sets are available for our additional analysis. It's easy to see if operator entered data aligns with machine monitored data. In the event there is misalignment, the AI notifies to find discrepancies in actual operations. Machines monitored without operator scanned records, and scanned records without machines monitored is notified for ensuring accurate data sets. In one case, Brian was notified a machinist entered in scanned data when the machine actually was not running.



Utilization trends are available to see progress over time and if your organization is heading in the right direction or changes should be made. Axis was able to increase utilization 20%+ in one month on a specific machine.



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# INNOVATIVE EMPLOYER ENGAGEMENT PROCESS ESTABLISHES EFFECTIVE ON-THE-JOB TRAINING (OJT)



The National Institute for Metalworking Skills (NIMS) has developed a new approach to help employers struggling with On-The-Job Training (OJT). It's a five-step method that is briefly described in a video that can be accessed by clicking [here](#). NIMS created the process to address the urgency many employers are experiencing getting employees training in today's manufacturing technologies and methods.

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“The first steps are somewhat academic, but we caution companies to not get turned off by those. They are quick and necessary for the subsequent steps that are practical and real-world, using a company's specific parts and processes. They successfully resolve the OJT needs in a relatively short time frame. Further, NIMS is here to help employers at every step of the journey.”

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**STEP 1 IS “FAMILIARIZE”** – introduces the Smart Training Principles that NIMS outlines on its website, [www.nims-skills.org](http://www.nims-skills.org).

**STEP 2 IS “DISCOVER”** – includes a quick online self-evaluation assessment that reveals perceived versus actual training behaviors occurring in a shop or factory.

**STEP 3 IS “ANALYZE”** – the shop owner or training manager and trainers participate in a session with a NIMS expert to bring clarity to the assessment results. This session returns a comprehensive needs analysis and a Training Playbook that the company can use to enhance its training program.

**STEP 4 IS “ENHANCE”** – the details of the organization's training program are developed on site at the company's location. This is the step that has the greatest and most empowering impact. The materials for training are created with a NIMS expert, and real training sessions are practiced and fine-tuned.

**STEP 5 IS “RECOGNIZE”** – the final step to ensure that all stakeholders in the program get acknowledged for their role in reaching the desired performance goals.

According to Montez King, Executive Director of NIMS. “The first steps are somewhat academic, but we caution companies to not get turned off by those. They are quick and necessary for the subsequent steps that are practical and real-world, using a company's specific parts and processes. They successfully resolve the OJT needs in a relatively short time frame. Further, NIMS is here to help employers at every step of the journey.”

For more information contact NIMS at (703) 352-4971 or email [support@nims-skills.org](mailto:support@nims-skills.org).



More About The National Institute for Metalworking Skills (NIMS) NIMS is a 501(c)3 nonprofit that was formed in 1995 to develop and maintain a globally competitive American workforce. Its mission is to help organizations improve overall performance by teaching them how to train and validate training with practical experiences that reflect what individuals and teams will face on the job. [www.nims-skills.org](http://www.nims-skills.org).

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# PAID LEAVE LAWS — AN EMPLOYER'S OBLIGATIONS

By: Stephen B. Maule, McMahon Berger, P.C.

Many states and municipalities have taken it upon themselves to enact paid leave laws in an effort to provide employees with alternatives when they need to be absent from work.

Where federal legislation for the most part has been unsuccessful, it has been far easier to pass such laws at a state or local level. Unsuspecting employers who are not aware of the passage of these laws can find themselves subject to significant liability for failure to comply with notice and leave obligations.

Most employers are aware of the federal Family and Medical Leave Act (FMLA) which requires companies with 50 or more employees within a 75-mile radius to provide unpaid leave to employees who have a serious health condition, have a family member with a serious health condition, or need leave due to the birth, adoption or placement of a child for foster care.

Familiarity with the FMLA and its obligations may lead some employers to disregard employee requests for leave based on the fact they have fewer than 50 employees or because the employee has not been with the company for at least 12 months or has not worked at least 1,250 hours in the previous 12 months.

Companies in this situation must take care, however, to make sure the state or municipality in which they operate has not enacted a paid sick leave or paid family leave law which may cover the employee's request for leave.

Most paid sick leave laws provide for the accrual of paid sick leave after so many hours worked. For example, many laws state an employee earns one hour of paid sick leave for every thirty hours worked. Often, employees are eligible to use paid sick leave after being employed for a period of time (30 days), while other laws permit employers to front-load an employee's sick leave time so that it is available to

the employee at the beginning of each calendar year. Employees generally can use such time for the employee's own mental or physical illness or injury, including diagnosis, care and treatment. The amount of leave varies, but generally employees are eligible to use from 24 to 40 to 56 hours of leave per year, depending on the location and the size of the employer.

Employers should note that several states provide not only for paid sick leave, but also paid "safe" leave. Often, paid safe leave can be used by employees for reasons related to domestic abuse, sexual abuse, stalking, human trafficking or related crimes.

Employees who have been subjected to such activity can take safe leave to obtain necessary legal and social services, file paperwork for protection, meet with legal authorities, counsel or others to ensure their or their family member's safety, and other related reasons.

An additional form of protection that many states have enacted is family leave where both the employee and employer contribute to a state-administered insurance fund each pay period. If an employee needs to take leave to care for a family member with a serious health condition, bond with a newborn, adopted or foster child, or, commonly, when a family member has been deployed overseas, they can do so and receive a percentage of their regular wage.

If the employee returns from their leave at or before the length of time allowed under the law — typically 12 weeks — then they are guaranteed their job or a comparable position with the same pay and benefits.

Whether the employee takes paid sick or safe leave or paid family leave under these laws, they are protected from discrimination or retaliation for taking such leave. Thus, employers may not take adverse action

against an employee who requests leave or after the employee has returned to work upon expiration of their leave.

Companies who operate in the many states who have enacted these leave laws are required to notify their employees of their rights by posting a notice at the facility and, frequently, including a policy in an employee handbook or policy manual.

Failure to provide notice to employees of their rights constitutes a violation of the applicable law regardless of whether an employee was denied the opportunity to use their entitled leave.

Given the ever-changing legal landscape, it is difficult to include all of the states and municipalities that currently provide for paid sick leave and/or paid family leave in this discussion. The above is intended to provide merely an overview of the types of leave that may be required in several jurisdictions throughout the U.S.

Thus, it is important that employers check their individual state and municipal laws, or with counsel, to verify whether they must provide such leave to their employees.



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# LESS TALK AND MORE ACTION

By: David Capkovitz, EBITDA Growth Systems

We all talk about how important culture, continuous improvement, employee retention, and organizational development is whenever we have a platform to talk about it. The question is, why don't more of us lean into this thinking and invest in our team?

Quick Statistics - Companies that invest in training have a 24% higher profit margin. Learning and training at a workplace are important to 87% of millennials. Employee retention rate grows by 30-50% at companies with a potent training program. A good onboarding program leads 82% higher retention and 69% of employees staying at least 3 years. If these statistics do not get you interested in getting better, look again.

## IS PROFIT IMPORTANT TO YOU?

**Of course it is, that is why we relentlessly pursue the American dream. But how do these “buzz words” above translate to profit?**

When an employee knows exactly what is expected of them, they don't wander around asking. Unfortunately, this is very normal for companies to just hire someone and throw them into the work mix with very little if any training or onboarding. Unfortunately, only 12% of companies onboard their employees well. Without proper onboarding, most employees feel uncomfortable and out of place and are not productive. This takes quite a bit of personal effort to get past and often leads to a very short-term employee.

With an employee onboarded correctly they will know exactly where they need to go, and what to do. The next step is leaning into the training. This is the difference between doing a job “okay” and being an expert at their job. These two pieces are what makes an employee win at their job. This naturally creates more profitable jobs. And when the employee is

winning and they know they are winning, they enjoy their job more. This is because employees do not like to lose.

## EMPLOYEE RETENTION NEEDS TO BE AT THE TOP OF YOUR LIST

With 2.1 million manufacturing jobs predicted to be unfilled by 2030 we are looking at a serious labor squeeze. This means there will be competition for the people you need to run a viable business. It also costs you 33% of your employee's annual wage to turnover an employee, so you need to keep the ones you have. This means that investing in a robust training program is a must. I know we are all too busy to let our men and women step away from the machine for a second to learn more, but if you don't you will disappoint 87% of millennials. (PS millennials will make up the majority of the workforce in 2024). This information means that you must engage and invest in training / organizational development.

## WHAT HAPPENS WHEN I LEAN INTO TRAINING INVESTMENTS?

30-50% of your employees will stay just because of your training investment. The employee will know that you care about them because you are putting your money where your “buzz words” are. These employees will feel like they are more “at home” in your business. This will build camaraderie among your team, and drive morale up. You will also have managers that know how to manage!

Did you know that only 14% of managers are naturally good managers? That means 86% of managers are not naturally good managers. This does not mean that they cannot be a good manager, this just means it takes an investment to get them there. If you don't invest in front line managers your turnover will go north. 82% of people left their job in 2021 due to a poor manager. Don't join this crowd!

## WHAT IF I DON'T KNOW WHERE TO START?

Reach out to an organization that invests in its members. At the 2022 NTMA Engage conference in Kansas City, I heard President Roger Adkins step up on stage and declare a new program they are launching just for these reasons.

They will be launching this program with our help in Q1 2023. Reach out to Roger or Kristen Hrusch [khrusch@ntma.org](mailto:khrusch@ntma.org) for details. This would be an easy and affordable step to help front line managers become the best they can be.

NTMA also has resources that help machinists become better machinists, so don't be afraid to ask about that as well. You can also lean into your local community college to see what skilled trades programs they have. Whatever you do, do something.

The truth is that you have a community that wants to be there for you. This community has people that are not afraid to share their experience with you. This community has people in it that will point you in the right direction to be successful. This community is rich with great relationships waiting for you to engage with us. It's time to take training and onboarding seriously if you want to be successful.

The data isn't telling us a storm is coming, the data is telling us the storm is here. Do the right thing for your business, the right thing for your employees, and the right thing for you and your family. Put employee retention at the top of your list, not just with words, but with your actions.



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# SMALL MANUFACTURING IS THE FUTURE

By: Nate Ragolia, Strategist - Beanstalk Collaborative

When you're knee deep in the daily grind, it can be tricky to see the forest for the trees. With new regulations, ever-changing technologies, global competition, customer demands and a host of usual challenges, we don't take the time to recognize the immensely meaningful impacts small manufacturing has on this United States and the world.

The truth is, despite any reports to the contrary, small manufacturing (companies with fewer than 250 employees) is the future. Here are some important and inspiring fast facts about our industry:

- 1) U.S. Manufacturing constitutes the 8th largest economy in the world.
- 2) Manufacturers perform 63% of all private-sector research and development. We're walking the walk when it comes to American innovation, and we continue lead the way.
- 3) For every \$1 spent in manufacturing, another \$2.79 is added, the highest multiplier effect of any economic sector and this has a huge impact on the communities where small manufacturers operate. We are, more than any other industry, drivers of success in our communities. We help our towns and cities thrive!
- 4) Manufacturing provides stable, livable wage jobs, averaging \$87K year including benefits, with 92% of workers qualifying for health insurance. In times, when low-paying service position jobs are ubiquitous, we're providing meaningful careers and giving employees a real shot at the American Dream exemplified by home ownership, educational opportunities, vacation dollars, and paths to retirement.
- 5) For every manufacturing hire, 4 additional jobs are created within the economy. From truck drivers to shippers, to office staff and accounting, we are drivers of job growth.

6) And we have openings, too, with 89% of manufacturers having jobs they cannot fill, meaning this industry is poised to absorb a new generation of workers to create more success.

7) After 2 years of pandemic related disruptions, it's clearer than ever that U.S.-based manufacturing will be essential to prevent supply chain disruptions.

The value of American Small Manufacturing is undeniable. It is essential for the nation's economy, for community wealth, for creating meaningful, well-paying employment, and for creating a future we can all be proud of. Keeping U.S. companies open, hiring, and operating is more important now than ever.

Decades of consolidation and low cost country outsourcing has lead to job cuts, and shuttered plants, but every business that stays open makes a powerful, daily contribution to its community. Did you know that 98.6% of all manufacturing companies in the United States are small businesses, and the majority of them (75.3%) have fewer than 20 employees? It's true. Each of us, however "small" is a big player.

Preserving these businesses, especially now, when a generation of owners and leaders are poised to retire, is extremely important. Imagine the damage losing a third of these businesses and their jobs would do to our towns and cities, and rural communities across the country. It would be devastating. However, by preserving our industry, we will likely benefit from growth in all the metrics shared above.

At Beanstalk Collaborative Community Wealth, we're on a mission to preserve Small U.S. Manufacturing by giving retiring and exiting owners a new option for selling their business. We are a "buy, build, and hold" model that means protecting a company's legacy, preserving its jobs, and growing it in its community. At the end of 2021, we made our first acquisition—a precision injection mold manufacturer in Minnesota—

when the retiring owners chose to partner with us, preserve the business, and galvanize the company's community legacy. We hope this is the first of many small manufacturers that we help thrive. We believe small manufacturing is the future, and we want to help you ensure that future is bright.

If you're curious about options for selling your company, want advice on valuation or succession planning, or are just interested in learning more about us, reach out at [beanstalkccw.com](http://beanstalkccw.com). Our leadership team has a combined 65 years of manufacturing experience, and more than 40 years in valuing and buying companies, and we'll always tell it to you straight.

Let's work together to protect and grow U.S. Small Manufacturing, so that future generations can lead American innovation and reap the rewards of doing this valuable work.

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*Beanstalk Collaborative Community Wealth, LLC (BCCW) is a holding company dedicated to providing attractive financial & legacy-protecting opportunities to transitioning owners in the manufacturing industry, while preserving and growing businesses, and jobs.*



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