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PITTSBURGH CHAPTER

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A Message from the Chapter Executive

Dear Pittsburgh Chapter NTMA Members,

Recently, I had the opportunity to participate in the Joint Technology Committee Meeting alongside representatives from several of our member companies, the NTMA, Association for Manufacturing Technology, and American Gear Manufacturers Association. A major insight from this two-day event was the critical importance for our industry to recognize the potential of advanced technologies and take proactive steps to integrate them into their operations.

The rapid pace of innovation and digital transformation, driven by developments in areas such as artificial intelligence, robotics, automation, and data analytics, is reshaping the manufacturing landscape in profound ways. These technologies have the power to enhance efficiency, improve quality, reduce costs, and unlock new opportunities for growth and competitiveness. Yet, despite the undeniable benefits they offer, many manufacturers remain hesitant to fully embrace these technologies. Whether due to concerns about cost, complexity, or uncertainty about where to begin, there is often a reluctance to take the leap into the digital age. I urge you to consider the consequences of falling behind the curve. In today's fast-paced global economy, standing still is not an option. Companies that fail to adapt and innovate risk being left behind by their more agile and tech-savvy competitors.

Fortunately, there has never been a better time to explore and adopt advancing technologies in manufacturing. The barriers to entry are lower than ever before, with a wealth of resources, tools, and expertise readily available to help guide you on your journey. Moreover, the potential return on investment is significant. By leveraging technologies such as automation and predictive analytics, you can streamline your operations and deliver greater value to your customers. Not only that, but you can also empower your workforce to focus on higher-value tasks, driving innovation and creativity within your organization.

I encourage you to take proactive steps to educate yourself and your team about the latest trends and developments in manufacturing technology. Attend industry conferences through the NTMA, participate in training programs, and engage with experts and thought leaders in the field. By staying informed and open-minded, you can position your company for success. Please reach out to us at the Pittsburgh Chapter NTMA to gain access to our knowledge and network. The future of our industry depends on technology, and the time to act is now. I look forward to seeing the positive impact that embracing technology will have on your company's success.

Best regards,
Michel Conklin
Chapter Executive, Pittsburgh Chapter NTMA

Featured Company May 2024: Kurt J. Lesker

By Kevin Hartford, President, Pittsburgh Chapter NTMA

If Oberg is the Granddaddy of us all in the Precision Manufacturing Industry then Kurt J Lesker Co. is one of our strongest pillars.

Founded in 1954 by Kurt J. Lesker Jr., the company - <https://www.lesker.com> - is a true leader in the global Vacuum Industry. They take great pride in providing high-quality vacuum equipment and exceptional customer service. Their goal is to enable innovation, creation, and advancement of a vast array of products in an ever changing global marketplace.

The depth and breadth of the markets KJLC serves include: LEDs, Optics, UHV/Synchrotrons, Electronics, Wear and Decorative Coatings and R&D. Lesker is making an impact on the world today as well as a better tomorrow by helping their customers compete and succeed on the leading edge of technology. Built on a tradition of customer service and quality, KJLC has grown from a regional manufacturer and distributor of vacuum components into today's world wide supplier in virtually every market. I strongly encourage you to log on to their website and read about their cutting edge technology and elite customer service.

I've had the opportunity to tour the new addition to their plant in Jefferson Hills and it's quite impressive. They have a new QC Room that is state-of-the-art. They also have added an automated Kasto Shelving system, each able to hold 6000 lbs. What struck me during my tour was not only the cleanliness and organization of their new addition but also the attitude of the workforce, which numbers 96 manufacturing employees at their primary plant. They take great pride in their new addition and the services they're able to provide their customers.

Lesker is now in its third generation of family leadership. Under Kurt J Lesker IV, who has been the company's CEO for the past 9-years, the company continues to grow and thrive. KJLC employs over 500 people globally. Along with their offices and plants locally they have facilities in Great Britain, Germany and China.

Kurt and his team have continued the tradition of going above and beyond for their customers. They strongly believe this tradition isn't the exception at KJLC, it's the rule. Their commitment to customer service fuels their sense of pride and purpose. When customers choose KJLC for



their technology needs, they're doing more than selecting an elite vacuum technology supplier—they're joining a motivated team of highly skilled professionals dedicated to achieving excellence. Many of us, both customers and vendors, have experienced their attention to detail and willingness to be a true precision manufacturing partner.

Previously Kurt's Dad was CEO of the company for 36 years. For those of you who never had the privilege & pleasure of knowing him, KJL III was a leader among leaders. He was the epitome of what every CEO strives to be, smart, innovative, engaging, compassionate and a great communicator. He left a lasting legacy with his son and their family of employees.

KJLC has been an outstanding contributing member in our chapter. Their VP Chuck Deventura and Ed Frieze both sit on our board. Chuck is a former President and continues to bring valuable insight and counsel to all of our efforts. Personally I can't count how often I've turned to Chuck for advice and perspective.

As with all of our larger members we are very appreciative of KJLC because of all they do for the chapter. They are actively involved in all of our initiatives. They are members because it serves the greater good of our industry.

KJLC is once again sponsoring our annual Golf Outing, which will take place at Hill Crest Country Club on June 24th. So, I thank them in advance for being incredibly generous and gracious.



Women in Manufacturing Association (WiM) is the only national trade association dedicated to providing year-round support to women who have chosen a career in the manufacturing industry.

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“I love being able to offer opportunities to women in manufacturing and STEM.”

Emily Ondras

Global Procurement Manager
Kurt J. Lesker Company
Membership & Sponsorship Co-Director
Women in Manufacturing Western PA



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The 2024 MSC / Pittsburgh Chapter

By John Lewis, Marketing and Outreach Coordinator, BotsIQ

On Friday, February 16th, eight machinist apprentices from six NTMA member companies in the southwestern Pennsylvania area came to Westmoreland County Community College's Advanced Technology Center to prove themselves in a competition between the best apprentices

the industry has to offer. The timed competition was split into two sections; the first, a written exam meant to test their knowledge; and the second, the creation of two parts manufactured to precise specifications from never-before-seen blueprints to test their hands-on machining skills, on a manual mill machine and a manual lathe machine. Time is a critical factor in this competition. Those who finished under the allotted 4 hours per part are awarded time-saving points. Mike Lenhart, the winner of the 2021 competition was a volunteer on site and noted, "With a time limit during the competition, you really have to think about every single process that you are doing and the most efficient way to work on the part."



"All of the competitors were confident and knowledgeable, ready to do their best."

The final parts are currently being evaluated by quality inspectors at two NTMA member companies. A point system based on understanding, skill and efficiency determine the winner which will be announced in June at the annual Pittsburgh Chapter NTMA Apprenticeship Graduation and Awards Banquet.

Joining the apprentices were representatives from eleven companies who oversaw the day's events while networking with their peers. They witnessed the best apprentices in the region as they proved that the future of the manufacturing industry is looking bright. This event is considered the highlight of the NTMA's Apprenticeship program, as it has been a tradition for over 15 years. It's meant to inspire the apprentices to fine-tune their machining skills, so as to win the grand prize: a Gerstner Tool Chest valued at over \$1500, as well as the title of "The Best Metalworking Apprentice in Southwestern PA."



NTMA Apprenticeship Competition

The competition is open to any apprentice so long as they have achieved five NIMS credentials, or are in the third or fourth year of their apprenticeship program. The competitors are generally apprentices that have been working diligently for multiple years to complete on the job training and classroom related instructions.

This event was made possible because of a dedicated group of staff and volunteers, and a committed group of sponsors including: MSC Industrial Supply, Westmoreland County Community College, Hamill Manufacturing Company, Kurt J. Lesker Company, Alro Steel, PDS Industries, IMI PBM, Penn State Tool & Die, and S&S Tools.

Congratulations to all of our competitors!

Richard Serembo, Hamill Manufacturing Company
Daniel Shortman, Hamill Manufacturing Company
Cameron Fouse, MetPlas
Ethan Lessner, Penn United Technologies
Jacob Koelsch, Penn State Tool & Die
Hunter Orischak, Penn State Tool & Die
Travis Bayne, Kiski Precision Industries
Colton McCallen, Aggressive Grinding Services



Thank you to our volunteers!

Stan Caroline - PDS Industries
Jeff Detar - Haas Factory Outlet
Dan DiFonso - Retired
Mike Lenhart - Penn State Tool & Die
Chuck Lentz - Hamill Manufacturing Company
Jim McDowell - Penn State Tool & Die
Brandon Richards - Aggressive Grinding Services
Roxanne Shurtz - Kurt J. Lesker Company
Merle Smith - Kiski Precision Industries
Barry Smith - IMI PBM
Leo Wozniak - Retired



The CWCTC Community Comes Together to Build a Bot

By John Lewis, Marketing and Outreach Coordinator, BotsIQ

The Central Westmoreland Career and Technology Center (CWCTC) BotsIQ team has been quite industrious over the course of the BotsIQ season. They have been supporting their schools team over the course of the school year, relying on the CWCTC's community to help build their combat robot, and stockpiling resources for the school's program in the future.

As the CWCTC's BotsIQ advisor, Workforce Education Coordinator Mark Long has been at the center of the fundraising efforts. He explains, "We have been trying new ways to fundraise this year. We have sold subs through Marianna's; worked with our Culinary department in our Career and Technology Center to sell Pepperoni Rolls; and the students also asked the local businesses if they wanted to donate to the program. We had 5 businesses donate over \$600."

The community support for the program doesn't stop there. It also extends into the professional manufacturing companies who support the team. For example, PDS Industries and Cleaveland/Price Inc. have both opened their doors and allowed these students to tour their facilities. Cleaveland/Price Inc. also visited their classroom, sending a Safety Engineer to inspect the CWCTC's teams processes.

Mark Long recognized the impact this professional courtesy has had on the team, saying "Our second biggest strength [after the students themselves] is the amount of time our mentors have been able to spend directly with the students. We have two apprentices from General Carbide who attend CWCTC for their related instruction and volunteer to guide our students on the machines before they start their own classes. It is nice for the team to get a different perspective on how to approach a setup problem and then guide them through to the end of the process."

Thank you to Mark Long, CWCTC and its students, and our industry partners for recognizing the importance of engaging students in building the future workforce for the manufacturing industry. With your help, the industry will continue to grow each year.

Find out more about Central Westmoreland CTC on their website, www.cwctc.org



Final OSHA Worker Walkaround Rule Released

The Occupational Safety and Health Administration's (OSHA) final rule to allow third-party employee representatives, including a union official at a non-organized facility, to be present during OSHA inspections has been officially published. The final rule changes a long-standing OSHA rule allowing only employees to be designated by workers as "walkaround representatives."



Specifically, the agency's text says "representative(s) authorized by employees may be an employee of the employer or a third party." It would allow non-employee representatives to participate in a walkaround "if, in the judgment of the Compliance Safety and Health Officer [CSHO], good cause has been shown why their participation is reasonably necessary to the conduct of an effective and thorough physical inspection of the workplace (e.g., because of their relevant knowledge, skills, or experience with hazards or conditions in the workplace or similar workplaces, or language skills)."

The rule codifies a 2013 Obama-era OSHA guidance, the "Fairfax Memo," which broadly interpreted the Occupational and Safety Health (OSH) Act of 1970 to allow union officials or community organizers to accompany CSHOs on walkaround inspections. That guidance was challenged by multiple parties in court before being rescinded by the Trump administration in 2017.

In comments on the proposed rule, One Voice along with coalition partners, argued that the rule is fatally flawed and fails to improve workplace safety and "undermines OSHA's credibility by imposing workplace access to otherwise uninvited third parties." One Voice will support coalition efforts to file legal challenges in the courts to the final rule.

The final rule takes effect on May 31, 2024.

Visit One Voice for Manufacturing at [OneVoiceInfo.org](https://www.onevoiceinfo.org) for more information about pressing issues, government actions, and anything else affecting the manufacturing industry.

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Meet the Pittsburgh Chapter's

By John Lewis, Marketing and Outreach Coordinator, BotsIQ

This February, the Pittsburgh Chapter NTMA welcomed two members to its Board of Directors; Rebecca Dalton, the Vice President of Finance at MetPlas, Inc., and Corey Drebot, Sales Manager at Haas Factory Outlet - Pittsburgh.

Rebecca Dalton shared, "I felt honored when I received the invitation to join the board. My decision to accept was driven by my belief in the significance of the NTMA's work... Being part of this impactful organization allows me to contribute to the growth and advancement of our local manufacturing community."

Corey Drebot had the same sentiment of excitement for the future. As an instructor in the NTMA's Apprentice Program since 2010, Corey considers this one of the great highlights of his career. "Teaching apprentices is a great way to give back to the manufacturing industry. My hope as a new member of the board is to keep improving & evolving the NTMA Apprenticeship Program for the future."



Corey Drebot knew in high school that he wanted a career in manufacturing. As a machine trades student at Schuylkill County Career & Technology Center, Corey was co-oping at Dauphin Graphic Machines, a manufacturer of printing presses for the newspaper industry. After high school, he attended the Pennsylvania College of Technology in Williamsport, PA, where he earned a degree in Tool Making Technology.

In 2008, he moved to the Pittsburgh area with his wife, Erin, and in 2010 began teaching the 2nd year program for the NTMA Apprentice Training Program at Northern Westmoreland CTC. Currently, he is teaching the 3rd & 4th Year CNC programs at Northern Westmoreland CTC.

In 2012, Corey was hired by the Haas Factory Outlet – Pittsburgh as an Application Engineer, and has recently become Sales Manager. His role brings him to many shops and schools across the region where he trains & supports customers with their Haas CNC equipment.

Corey and Erin are proud dog parents to a 4 month old Boxer named Baloney and a 9 year old Weimaraner named Laiden. Corey also enjoys driving and car cruising with his 2006 Saleen Mustang.

Newest Board Members

Rebecca also believes strongly in the power and importance of workforce development. She added, “I am committed to workforce development and staying informed about emerging technologies in manufacturing. Additionally, I aspire to serve as a conduit between industry stakeholders and the NTMA, providing valuable feedback to assess industry needs.”

Although these two individuals are new to the role of board member, combined they bring over 35 years of professional experience in the manufacturing industry in and around the greater Pittsburgh region.

Congratulations to Rebecca and Corey on your new position. The Pittsburgh Chapter NTMA looks forward to working with you in a greater capacity in the future as we continue to build the manufacturing industry.

Rebecca Dalton, the Vice President of Finance at MetPlas Inc, boasts an impressive 27 years of experience in finance and accounting. Rebecca’s journey began in the manufacturing sector, where she embarked on her career after college working in the steel industry. Her two-decade tenure at MetPlas has solidified her position as an integral member of their management team.

In her current capacity, Rebecca offers guidance to MetPlas’ finance and human resources team, with a primary focus on financial reporting, forecasting and margin analysis. She collaborates closely with the production team, analyzing budgets to optimize profitability on the shop floor. Rebecca’s passion lies in streamlining her department and relentlessly pursuing efficiencies by implementing emerging technologies.

Lately, Rebecca has dedicated significant effort to workforce development at MetPlas. She keenly understands the importance of skilled labor and is committed to developing the next generation of professionals. Through her outreach to various technical/high schools, she has built relationships to bridge the gap between students and manufacturing opportunities. A proud graduate of West Virginia University, she now resides in Murrysville with her husband.

In her free time, you’ll find Rebecca enjoying a round of golf or cherishing moments with her two adult children.



Honoring Jeff Detar: A Tribute to Dedication and Leadership in the Pittsburgh Chapter NTMA

By Michel Conklin, Chapter Executive, Pittsburgh Chapter NTMA

As the Pittsburgh Chapter National Tooling and Machining Association (NTMA) bids farewell to one of its esteemed board members, Jeff Detar, it's with a mixture of gratitude, admiration, and a touch of sadness. Jeff's departure marks the end of an era characterized by exemplary dedication, visionary leadership, and unwavering commitment to the advancement of our organization and industry.

Jeff's journey with the Pittsburgh Chapter NTMA began over 30 years ago when he completed his Journeyman Machinist certificate with the Chapter's Apprentice Program. From student, to teacher, to an integral member of the Apprentice Steering Committee, Jeff played a pivotal role in shaping the future of our workforce by championing apprenticeship and initiatives aimed at nurturing the next generation of skilled professionals in the manufacturing sector.



Beyond his contributions to the Apprentice Steering Committee, Jeff's leadership on the board has been instrumental in guiding the strategic direction of our chapter. His presence at chapter events, willingness to lend a helping hand, and genuine camaraderie have enriched the fabric of our community. Whether he is sharing industry insights, offering guidance to fellow members, or simply sharing a laugh, Jeff's warmth and generosity are always evident.

As we reflect on Jeff's legacy, we are reminded of the profound difference that one individual can make. His integrity and commitment serve as an inspiration to us all. While we will miss his presence dearly, we take comfort in knowing that the seeds he has planted will continue to bear fruit for years to come.



To Jeff, we extend our deepest gratitude for your service, your leadership, and your friendship. Though you may be leaving the board, your impact will endure, shaping the future of the Pittsburgh Chapter NTMA and the manufacturing sector for years to come.

On behalf of the entire board, staff, and members of the Pittsburgh Chapter NTMA, we wish you nothing but continued happiness as you embark on the next chapter of your journey. Although you may no longer hold a formal position on the board, we look forward to our continued friendship.

The First Annual Youth Apprenticeship Week Begins May 5th, 2024

By John Lewis, Marketing and Outreach Coordinator, BotsIQ

The U.S. Department of Labor is celebrating the first annual Youth Apprenticeship Week (YAW) from May 5th to May 11th. YAW is an extension of National Apprenticeship Week, meant to highlight the benefits and value of Registered Apprenticeship programs for ages 16 to 24. Apprenticeship represents a path from high school to a successful and valuable career in the manufacturing industry, and in that way represents an opportunity that students may not be aware of.

The daily themes for the week are as follows:

Monday: “Parents and Guardians are a Priority” in Registered Apprenticeship

Tuesday: Youth Apprenticeships: Building Awareness, Myth Busting, Partnering with Educational Providers, and Creating Pathways through Pre-Apprenticeship.

Wednesday: Expanding Youth Apprenticeship Opportunities for Underserved Populations

Thursday: National Youth Apprenticeship Signing Day

Friday: Federal Partners Day and Call to Action

Jafone Jefferson is an entry level machinist in year one of the NTMA Machinist Apprenticeship program, working at Specialized Welding. According to Jafone, "I decided to [join the program] because it seemed like the most beneficial way to gain knowledge while getting hands on experience with the machines. I enjoy the depth in which we dive into things. The teachers explains things really well and give good examples of how they apply to the actual job."

Apprenticeships are a great opportunity for people like Jafone who want to learn new things and build up their skills to pursue a successful career in the manufacturing industry. The Apprenticeship Program is a vital part of helping students become skilled professionals.

YAW is also an opportunity for companies to reflect on their workforce development practices. Whether you are involved in Registered Apprenticeship or not, how are you engaging with youth? If our industry is going to grow and meet consumer demand, we need a sustainable pipeline of skilled and diverse talent.

Contact the Pittsburgh Chapter NTMA (office@pghntma.org) for more information on how your company can get involved with apprenticeship or youth workforce development.



BotsIQ Competitions Spark Student

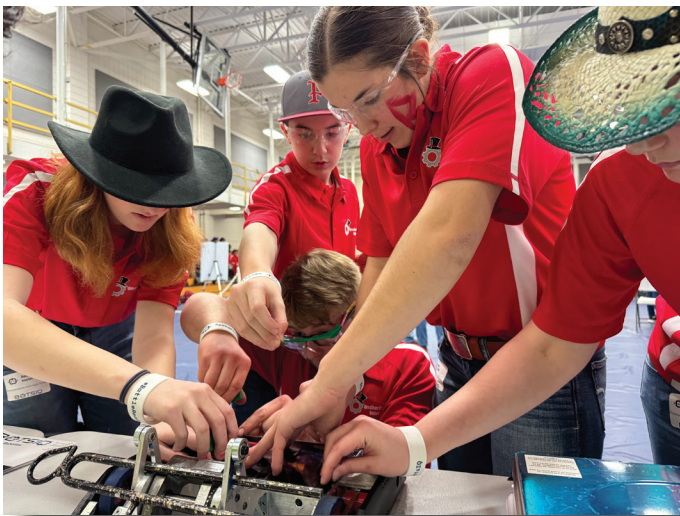
By John Lewis, Marketing and Outreach Coordinator, BotsIQ

Throughout March and April, BotsIQ hosted its premier high school robotics competitions. Teams spent the previous six months learning about the manufacturing industry, touring local companies, and following professional standards in documentation and technical regulations to build a fifteen-pound combat robot. The competitions offered them the opportunity to test their robotic creations in head-to-head battles against teams from across the region.



For those unfamiliar with BotsIQ's combat robotics program, the battles are fairly simple. Two robots are placed into a steel and polycarbonate cage; the clock is set to three minutes; and teams try to incapacitate their opponent's robot using their attached weapons or out-skill them in driving and maneuverability. If neither team is "knocked out" during the match, the decision falls down to a panel of three judges comprised of industry volunteers. Teams must attend one preliminary round in March in order to be eligible to attend the Finals in April.

Competitions took place on five days and are hosted at different post-secondary institutions across the region. "BotsIQ selects its locations with the purpose to provide students and teachers (and parents) with an opportunity to visit a local college that offers a post-secondary manufacturing training career program," shares Michel Conklin, BotsIQ's Executive Director. Preliminary competitions this year were hosted at Robert Morris University and Westmoreland County Community College and the Finals Competition was held at PennWest California.



At each of the three competitions, it was clear that these teams of high school students had been working on their designs diligently, then building them with painstaking accuracy. It seemed less like a simple competition and more like an opportunity for these students to show off the skills they had built over years of manufacturing oriented workforce development programs.

When asked what the importance of the BotsIQ program is, Mark Gizler, Springdale High School's Technology Education Teacher, shared "I think

Interest in Manufacturing

it challenges the students. It's an opportunity for them to dig deep and combine different skill sets and topics that they need to master." The heart of BotsIQ's combat robotics program is to provide a chance for the students to pull together all of the skills that build a successful career in the manufacturing industry and put them into practice, while connecting with manufacturing companies as industry advisors, or by touring real machine shops.

Will Fennell, the owner of NTMA Member Company Xcelicut LLC, recognized not only the effectiveness of BotsIQ in connecting students to the industry, but also how attractive it can be to the students. He said, "It's great for kids to get exposed to all different kinds of experiences. If this was around when I was going to school I would definitely have joined."

This year's BotsIQ competitions helped prepare over 600 students to enter the manufacturing industry in their future careers. Thank you to the Pittsburgh Chapter NTMA member companies that support BotsIQ and make events like these possible.



BotsIQ's Big Summer Plans

By Oula Ghani, Teaching Fellow, BotsIQ

This summer, BotsIQ is hosting several fun filled summer camps for students in the realm of robotics, STEM, and manufacturing. These camps are all free to attend.

BotsIQ will begin the fun with a LEGO robotics camp at the Advanced Technology Center at Westmoreland County Community College. Students in 6th to 8th grade will design, build, and code LEGO solutions to solve real-world problems. This camp will run June 10th till June 14th.

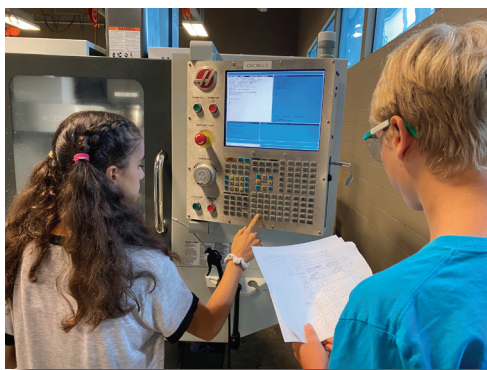


All of the following camps will take place at the BotsIQ Training and Education Center at 100 South Jackson Avenue, Pittsburgh, PA.

For the younger audience in grades 4-6, BotsIQ is offering two week long programs. First, students can join the Circuit Quest Summer Camp. Students will explore the world of circuitry through multiple hands-on activities, and will design, laser cut, and 3D print their own creations. This camp will run June 17th till June 21st. Second, BotsIQ will be running RoboRecharge as a week long camp. In this shark tank style program, students will design and build a robotics solution to a problem, develop a business model, and pitch their solutions to a panel of industry professionals. This camp will be held from June 8th to June 12th.

BotsIQ also has something special just for girls! The second annual Girls Exploring Summer Camp for 6th-9th graders will run from July 22nd to July 25th. Girls will use advanced technologies to explore careers in manufacturing and robotics through hands-on experiences. They will laser cut jewelry, solder cool gadgets, and explore foundry activities.

Eager to explore space? Have your 3rd-5th graders launch an exciting week with the Maker-naut Summer Camp! Students will complete space themed activities from July 29th to August 2nd, like launching rockets, learning about constellations, and making a space craft.



Last, but certainly not least, BotsIQ is hosting a 2-week combat robotics camp. This camp will run August 5th to August 16th for 7th to 9th graders. Students will use CAD to design their battling bot and solder and wire components. This camp will introduce students to rewarding careers in machining, manufacturing, and robotics.

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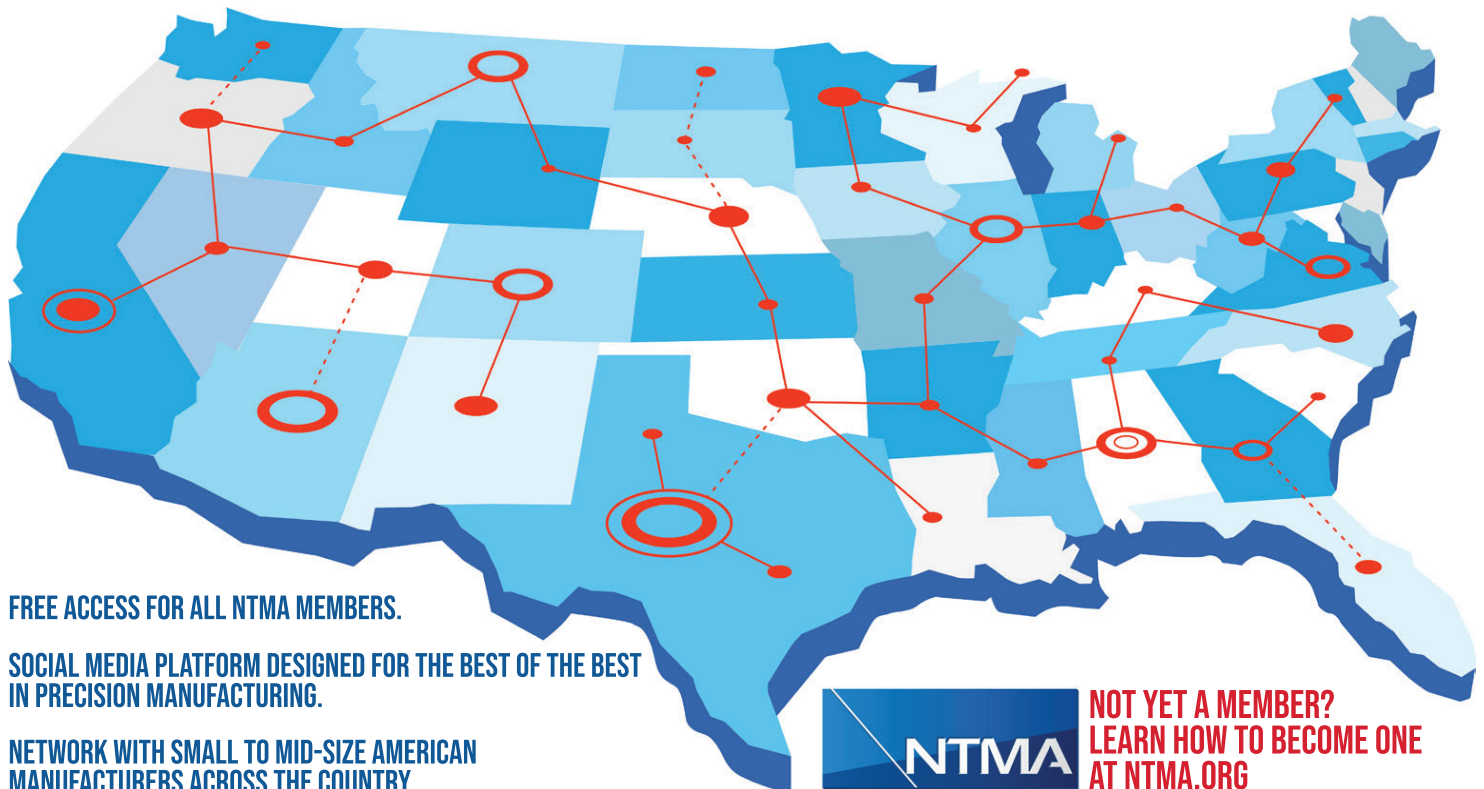


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A Look Back at 47 Years of

By John Lewis, Marketing and Outreach Coordinator, BotsIQ

Specialized Welding is celebrating their 47th anniversary this year. Acknowledged in 2022 as a 5-year NTMA member, we had the opportunity to reminisce about the journey that helped them to become one of the premier welding and fabrication companies in Southwestern Pennsylvania, while remaining a local, family-owned business. The story starts with their founder, Dan Bazella.



“What we have here is truthfully the American dream. Initially [Dan] worked at Westinghouse, but he would come home and work in the garage at night and on the weekend, and that’s how the business got started,” explains Specialized Welding’s current CFO, and Dan’s daughter, Amy Ramer.

In the eighties, Dan and his wife, Margie, built a larger garage to move their growing business into. Then, when Westinghouse laid off a portion of their workforce, including Dan, he took initiative to partner with other displaced colleagues and built Specialized Welding into the company it is today.

Bud Strain, the Shop Foreman, is one of those partners. Bud worked side-by-side with Dan for over 35 years. As he recalls, “I was employed as a full-time sheet metal worker and worked with Dan on evenings and weekends until he gave me a full-time opportunity that was worth leaving the union for. I’ve been here ever since.”

Bud credits their long-term success to the company’s focus on interpersonal connections in business, saying, “We’ve always been able to make good relationships with people along the way. It’s been very important for us to have good personal relationships with the people we work with, even beyond the professional.”

“Dad grew up on a farm and knew what hard work was. He built the business with an attitude of hard work and persistence, no matter the situation,” added Amy. “We like to say, there’s no job too big; no job too small.”



Specialized Welding



At the start of 2020, Specialized Welding moved to a larger facility in Export, PA, over ten times the size of that first garage. They are taking advantage of the opportunities this new facility provides them by diversifying their business. Jared Bazella, Dan's son and CEO of Specialized Welding explains, "We work with everything from the oil and gas industry to wastewater management to aerospace. We did a piping unit that was 42 inches and 27 feet long. That was our first really big job in the new facility; we couldn't have even picked up the pipe at the old shop with our old equipment."

As the second generation of Specialized Welding, Amy and Jared have been connected to the manufacturing industry for a very long time. Jared shares, "Manufacturing is all I've ever done. I've been doing it since I was a young kid." Amy agreed, adding that, "Manufacturing

is in our blood. The first time I walked into a shop where people were welding, I thought, 'this smells like home'."

They are already working to make the American manufacturing industry at large stronger. Amy said, "We participate in the Pittsburgh Chapter NTMA's apprentice program, and we go out and visit vo-tech schools to try to get the future generation interested in manufacturing."

According to Jared, "If you're not getting better, you're falling behind; so we're always trying to be better from year to year. Every year, we try to improve."

Congratulations to Specialized Welding for 47 successful years in business. The manufacturing industry has always been the true American Dream, and your continued success is the proof.

Find out more about Specialized Welding at their website, www.specializedweldinginc.com, or on their Facebook page at Specialized Welding, Inc.

Apprenticeship What to Do

By Liz Blashock, Apprenticeship Program Manager, PGH NTMA

Don't have a state Registered Apprenticeship Program?

We have great news for companies interested in establishing an apprentice training program. The Pittsburgh Chapter NTMA is an approved Group Sponsor of Apprenticeship through the Pennsylvania Department of Labor and Industry's Apprenticeship & Training Office.

If you do not already have a registered machinist program in place, the Pittsburgh Chapter NTMA can now take this off your long list of to-do's. You can avoid the cost and time of back and forth with the state by delegating the Pittsburgh Chapter to handle the administrative tasks of monitoring and documenting the training with the PA DoL's Apprenticeship & Training office. This allows you to focus on your on-the-job training and moving your entry level workers to advanced level jobs.



Already have a registered Apprenticeship Program?

If you need to reach someone at the state's apprenticeship & training office, our local contact is Marshall Palmer. He can be reached at Marpalmer@pa.gov or (724) 810-6351.



As a reminder, the new URL for RAPIDS is entbmp.dol.gov/suite/

If your company has an approved registered apprenticeship program, but has been stagnant and you are not sure how to revive it, reach out to us. We can discuss options for restarting your program with the PA DoL and connect you with the right people.

The next cohort of related theory instruction classes will start in September with enrollment opening in July! Connect with Liz Blashock, Pittsburgh Chapter NTMA's Apprenticeship Program Manager to learn how we can help you. She can be reached at blashock@pghntma.org or (412) 212-6868.

Finding Your Niche

By Will Fennell, Owner, Xcelicut

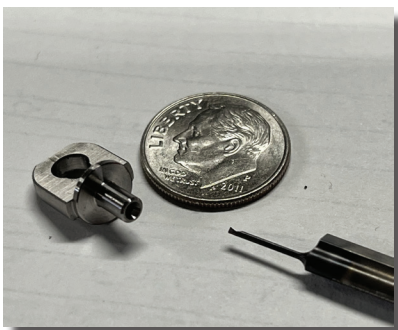
As a contract manufacturer, finding your niche can be a difficult undertaking. Any business guru or MBA professor will tell you it is critical to success, but it is certainly not as easy as they make it seem. When I was first starting Xcelicut, I asked a veteran machine shop owner how he found a niche. His answer stuck with me, “Your niche will find you...” He elaborated, saying that you will naturally find a type of work that fits the culture you create and the customers that suit you best. After 4 years of running Xcelicut Precision Machining, I see he was 100% correct. We have found our



niche in medium volume contract production of precision turned components such as fittings and small parts like electrical connectors because our core values lend themselves to that type of work. Continuous improvement and attention to detail are two beliefs that we live by every day.

Continuous improvement is not just an initiative at Xcelicut, it is in our DNA. We quickly found that we were very good at reducing cost on repeat jobs because every time a part comes through our shop we are dissecting the process to see where we can reduce cycle time, increase tool life, or create a more consistent process. We are always seeking a better way and the status quo is never tolerated. Staying on top of the latest machine tool technology, tooling, and techniques allows us to constantly increase efficiency.

Another core value that helped us find our niche in the high precision, high production space is our attention to detail. From the beginning, Xcelicut has been built around the idea of done-in-one machining and removing manual intervention from the process. Producing a single part can be a challenge, but there are even more challenges when you need to produce 5,000 pcs of the same part efficiently. Manual deburring is not an option, so every part must come off the machine free of burrs, and we take this one step further by making sure even the edges of chamfers are rounded. It is not good enough that a part be in tolerance, we want it to look and feel perfect as well. Another issue that you run into when needing to produce long runs of parts lightly attended is chip control. You have to pay attention to the smallest details that lead to process inconsistency and stringy chips are one of the biggest culprits in this area.



In conclusion, when seeking to clarify your niche, take the time to reflect on your company culture, core values, and what you do best. It is these foundational traits that will not only lead to satisfied customers, but also to satisfaction for you and your employees. Everyone has an innate desire to be successful at whatever pursuit they undertake, and focusing on what you enjoy and do well will quickly lead to that success.

A Spotlight On Students In

By Liz Blashock, Apprenticeship Program Manager,

The seniors graduating this year began high school amidst the chaos of a global pandemic in September 2020 but, they are going to be just fine! Thankfully, the pandemic is past us, but the ability to pivot and think outside the box will always be with us. That certainly is one positive impact of navigating life during a pandemic that we can embrace. Bennett Zukas is one of those students who is always thinking outside the box.



From his days of learning CNC outside on the sidewalk of Northern Westmoreland CTC his freshman year, to the inside of Aerotech where he is a CNC Machinist Trainee, (Level 5!) as a graduating senior, to the classroom where he is attends apprenticeship classes in the evenings. Bennett advanced placed into the Year 3 NTMA Machinist Apprenticeship training courses because of the skills he is learning at Northern Westmoreland CTC combined with the on-the-job learning he is doing as a co-op at Aerotech. Bennett feels the on-the-job learning has greatly accelerated how fast he learned his job and it has given him a sense of satisfaction for his perfectionist tendencies. He likes attending the evening apprenticeship classes and noted “I enjoy learning from my teacher as well as other machinist apprentices in the class who both show me how to be better at my job.”

Dylan DeMark is another amazing senior who is thinking outside the box when it comes to his senior year. He knew he wanted to begin a career in manufacturing like his father. Dylan had heard about machinist apprenticeship classes through his mentor at Jennison Manufacturing where he began working in the summer of 2023. Although his high school did not offer a clear pathway for those interested in manufacturing, his mom found a way to make it happen!



Dylan only needed 3.5 credits to graduate, so he attends Bethel Park High School in the mornings and then goes to work at Jennison Manufacturing while also attending evening apprenticeship classes once per week. Dylan is receiving ½ credit for completion of Year 1 of the NTMA machinist apprenticeship courses! He noted, “We learn about so many topics and our instructor reviews everything to make sure we understand it. The class has taught me how to read mics better and overall just do my job better.” Upon graduation, Dylan plans to begin working full time at Jennison while continuing the machinist apprenticeship program. He is looking forward to “turning something that is nothing into something that is used in the real world everyday by everyday people.”

Manufacturing Apprenticeships

Pittsburgh Chapter NTMA



To those who say, the younger generation isn't interested in working – students at Northern Westmoreland CTC (NWCTC) will make you think twice. David Hockenberry, the advanced manufacturing instructor at Northern Westmoreland CTC, notes 11 out of the 15 seniors in his expanding class are working. Some students even ask for more working hours.

Ayden Sowers, a senior at Kiski Area High School and NWCTC, is one of those students. Ayden began working at Kiski Precision Industries his junior year. As a senior, he enrolled in the NTMA Machinist Apprenticeship training courses and attends class one evening per week. “I like that it’s only one evening per week, so it gives me more free time to work and make money. I’m saving up for a motorcycle.” Ayden also noted he is more of hands-on learner where he needs to be shown how to do things so he can better understand the task. His mentor on the job as well as his apprenticeship instructor in class, Merle Smith, says “I can see from when he first started until now the benefits of his learning progression in the apprenticeship program combined with the on-the-job training. He has real enthusiasm to continue learning.” After graduation, Ayden looks forward to joining the manufacturing workforce full time and hopes to learn as much as he can in the world of manufacturing.

Andrew Manzella, a then Junior from Franklin Regional High School, went on a tour to Hamill Manufacturing and pivoted his career path. On that tour is when he was inspired to explore careers in manufacturing. “I have a genuine curiosity for how common objects are made, Manzella stated. A now senior and NWCTC student, Andrew is almost complete with Year 1 NTMA Apprenticeship training courses and will begin working full-time at Hamill Manufacturing in June. He appreciates the tips and tricks that are not shown on paper that he learns in the classroom, but also on-the-job. His favorite thing about working in manufacturing is working with people who are willing to help and train new people like himself in the industry. Andrew is confident his career path pivot will be a success.

“Being around a group of people that work together to get a project done as fast and precisely as possible while training new employees to carry on the Hamill legacy is my favorite thing about my new journey.”



We commend these seniors and congratulate them on the thrilling career choices they have made as they join the manufacturing workforce!



OMAR NASHASHIBI



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Fundamentals of Laser Marking

By Laurie Barcaskey, President, Leading Marks

Adding or upgrading your marking process with laser technology might serve you well. However, by doing some homework you will optimize the added capabilities allowing room to grow. Whether it is a dedicated workstation or integrated in a production line, be sure to identify the features that fit your budget. Finding the best partner to provide the solution is important. What one machine shop finds suitable for them is not always the best for another shop.

Laser marking offers more flexibility over chemical etching, which it commonly replaces. Programming through the software provides quick change marking details without having to print a mask specific to each marking file. Upgrading from dot peen can prove beneficial, however for applications where stress fractures are a concern, you may want to think again.



Within the laser marking solutions you will find different power sources that are specific to the types of materials you need to mark. Fiber sources are most suited for metals and some plastics, while CO2 sources best serve organic materials like wood, leather, and glass, along with some other plastics. Applications where heat may impact the product, or high contrast is needed there are other specialized laser sources such as UV, Green, Mopa and Solid State.

When referring to laser marking systems, the "marking area" is the area on the part on which the laser can engrave, etch, or mark at one time. Marking details need to fit within this area without repositioning the part. The size of this marking area is largely determined by the lens that is used in the laser system.

Industry standards for a marking area is 4" by 4" (approx. 102mm x 102mm), which suits for a wide range of applications, balancing between size and precision for many products. However, smaller or larger lens offer value for specific requirements. The lens is similar to a magnifying lens. It focuses the laser beam to a precise point for marking. Characteristics of the lens, including its focal length, determine the size of the marking area.



The focal distance spans the distance between the lens and the workpiece. With larger lenses, the focal distance increases between the lens and the workpiece to correctly focus over the larger area, and may lead to variations in the uniformity of mark results.

Lens choice impacts both the size of the marking area and the quality of the marks. Understanding the lens size, focal distance, and laser power distribution is essential for optimizing a laser for different applications.

Having the ability to achieve different mark results based on program settings makes laser technology attractive. Ranging from a light surface etch to deep engraving, and annealed marking for contrast you can meet the demands of a multitude of applications with one system – a job shops dream come true.

Many of today's lasers have intuitive software packages allowing beginners to get started quickly with preloaded settings based on the type of material, preferred type of mark, and batch size. Typical marking details such as alpha/numeric characters and symbols are available in standard True Type fonts. Marking bar codes increases to include 1D and 2D codes in a variety of formats. Experienced laser programmers may prefer to access the background tools for deeper dives to tweak marking parameters.

Most lasers will accept standard formats when importing logos, however some platforms may require file conversion. Job shops looking to expand through contract marking may face time spent converting files. When data changes often, how it is entered into the software becomes important. For example, to optimize accuracy bar code scanning from work orders removes transposing characters. Another option is to use data in spreadsheets, which most software platforms will accept optimizing throughput for items like nameplates. Yet other times, interfacing with a host computer streamlines the data entry to real-time.

Workstations vary, and safety is key. This article is focused on a Galvo arrangement. A Galvo laser refers



Q&A with NTMA Member, Stellar Precision Components

What would you offer to other manufacturers looking for laser solutions?

You won't regret it. Laser marking is the fastest, easiest, most efficient way of doing what we do. Use of the laser in comparison to epoxy ink or electro-chemical etch is a breeze. The time savings and equipment management has been significantly improved.

How did you evaluate the solution?

After getting agreement with our customers on the possible marking change, we contacted providers we have used in the past for other types of marking equipment who also sold laser machines. As this was a brand new process to us, we relied on their expertise to help us determine the right equipment for our application.

Sam Womack, Quality Manager

Laser Marking, Continued

to a system that utilizes galvanometer scanners to steer the laser beam across the surface. This system contrasts with other types of lasers, such as gantry systems, which moves the laser head mechanically over a fixed path. Sometimes Gantry systems can be favorable for large batches of small parts. Class I Galvo workstations meet OSHA standards for light-tight environments protecting operators and area workers from stray beams. Laser providers typically offer a standard enclosure, and some can build customized cabinets. Third-party automation organizations are also options for custom enclosures and installations.

Key features of enclosures include the characteristics of the parts presented to the workstation, along with access to the internal chamber. Manually operated, motorized and programmable doors are options with most suppliers. The ability to mark larger parts may require looking closely at the Z-axis to insure proper focal distance can be met. Automated Z-axis options are invaluable for frequent part sizes changes and ensure accurate setups. Fixturing differs from impact marking. Consistent placement in laser applications is more important than being held securely. T-slot bases offer flexibility for quick changeovers.

Some shops choose to work without the enclosure with Class IV arrangements. While these workstations offer greater flexibility with part sizes, they require extra attention to safety. The operator should be equipped with safety lens to suit the wavelength of the laser source. Preferably these systems are surrounded by laser safety barriers, or a dedicated laser marking room.

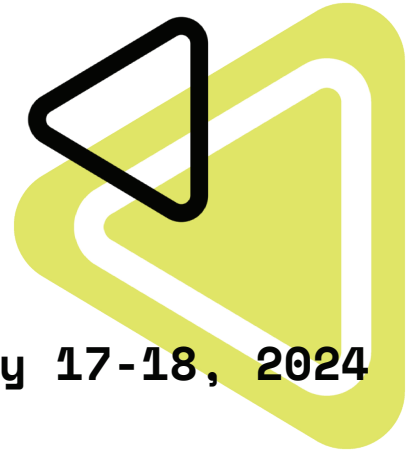
Another favorable feature of laser marking is the minimal maintenance requirements. By keeping the lens clean and the internal chamber free of debris and fumes clear, legible mark results can be achieved consistently. A good air filtration system aids in this maintenance process.

As you consider the partner for your project you want to explore the depth of their marking experience. Some partners are specific to laser marking, while others have a broader background in direct-part marking applications. The size of the organization will provide insight of their ability to meet delivery and support post-sale issues. Be sure to have test marking done on your materials and spend some time being acquainted with their software. There are a lot of companies offering laser marking solutions, and like machine shops, they are not all the same. Choose wisely.





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- 06/04 IEE Annual Summer Social
- 06/05 PGH NTMA Apprentice Graduation
- 06/24 PGH NTMF / KJLC Manufacturing Open
- 09/10 IEE Series: Contagious You
- 09/25 Pirates and Politics

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