

# THE RECORD

Published by the National Tooling and Machining Association

## THE Advocacy Issue

See inside to find out what  
you can do to stay aware

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*and so much more ...*



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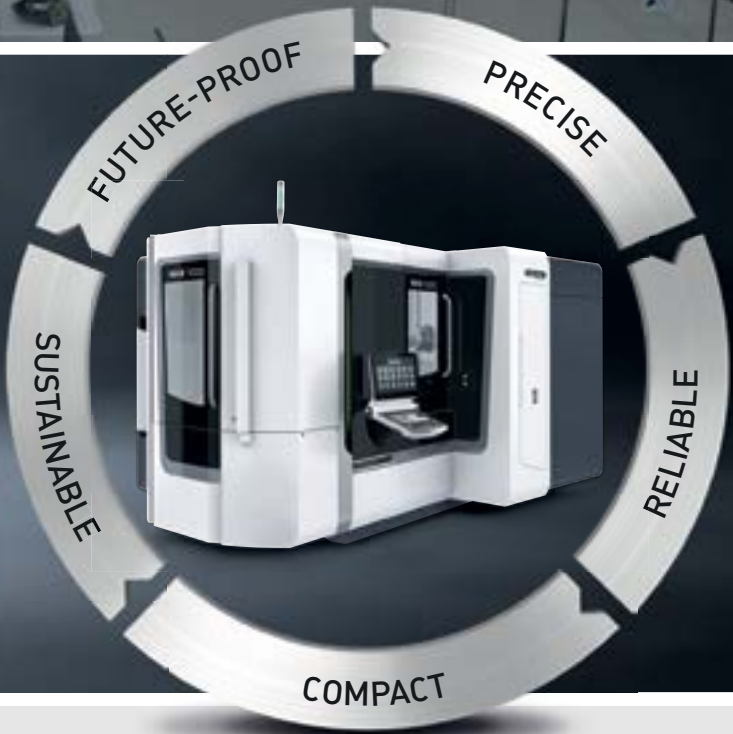
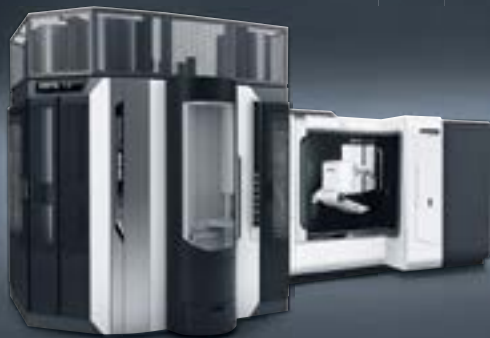
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# THE RECORD

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### 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  
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### FUTURE THEMES

**March 2023:** Conferences...  
Listen, Learn, Implement

**April 2023:** Sales/Marketing...  
New Day – New Tactics

**May 2023:** DEI...  
Is Coming, Ready or Not



### UPCOMING NTMA EVENTS

**Emerging Leaders Conference**  
March 8-10 | Knoxville, TN

**NTMA/PMA One Voice Fly-In**  
March 28-29 | Washington D.C.

**MFG 2023**  
April 26-28 | Phoenix, AZ

**International Technology Tour 2023**  
May 6-12 | Germany & Switzerland

**Engage 2023**  
October 18-21 | Indianapolis, IN

# PRESIDENT'S UPDATE



“If every company/person donated to advocacy an average of \$1000 we could have a much greater impact for ourselves.”

The vast majority of owners and managers of small to medium size manufacturing facilities today, spend the majority of their time and efforts just running their businesses. The challenges are never ending and when the vast majority of owners and managers of small to medium size manufacturing facilities today, spend the majority of their time and efforts just running their businesses. The challenges are never ending and when one challenge is overcome, another one seems to always take its place. Manufacturers understand and accept the challenges, and in reality, manufacturing thrives on challenge. As a result, the main focus is operations and there is little time to be aware of all of the outside factors that can affect a business such as governmental rules, regulations, and policies.

Having managed manufacturing facilities, I remember well those days when day to day operations consumed my attention and much of what was going on outside of my daily purview, seemed to just be a blur and outside influences despite my desire to put my attention on them, would pass by without my time or attention. That said, the results of this past November's election have now been sorted out and the real effects of those results are beginning to take shape. Thinking a significant change in the makeup of the House of Representatives and/or Senate might change some of our country's political

outlook, which did not happen, we again find both chambers with razor thin margins and little control by either party. My point is not about party affiliation or the party in control, but rather the effect razor thin margins have on our businesses. They can keep the system in political limbo or at a minimum allow for Presidential executive orders, both of which can disrupt our businesses or personal lives without our knowledge or input.

The current political climate only amplifies the need for a likeminded manufacturing community of professional who can monitor these type of external threats, changes, and potential changes and advocate on your behalf while you stay focused on your business. NTMA is so fortunate to have one of the leading small lobbying firms in Washington DC, **The Franklin Partners**, in conjunction with **Bracewell Policy Resolution Group** advocating on our behalf. The success in defeating non-pro-business legislation or potential legislation is normally unseen and is a priceless savings to you and your company. While large corporations have the time, money, and resources internally to advocate and protect their own interests, the solution for us small to medium size businesses is joining together and pooling our monies and efforts to advocate and protect our own interest. One thing we have learned through the years, is advocacy is vital and if we did not have our NTMA partners to advocate for us, it would not get done.

So what does joining together and pooling our monies and efforts look like? Advocacy is a multitude of actions including, but certainly not limited to:

- 1) **Donating money to NTMA PAC** (which is used to give/influence pro-manufacturing candidates) and GAAF (which is used to pay for our advocacy representation) funds. Just like the example of membership, if every member brought in one member, our national membership could double over night and make a huge difference. If every company/person donated to advocacy an average of \$1000 we could have a much greater impact for ourselves. I need not tell any of you, the wrong tax, the wrong regulation, or the wrong industrial policy can cost you and your company thousands regardless of the size of your business.
- 2) **Acting on One Voice email "Action Alerts"** from NTMA's advocacy team in Washington DC allows you a quick and easy way for your voice to be heard by notifying your representative(s) on legislation and/or policies concerning our industry's interest. Thus opening the opportunity for conversation.
- 3) **Opening your shops to local, state and national political leaders**, letting them see the people you employ, educating them on what you do, and communicating the challenges you face, many as a result of policy..." bad" policy for business and/or manufacturing.
- 4) **Encourage your employees to vote**, encouraging them to support pro-business and pro-manufacturing candidates.
- 5) **Be willing to volunteer and speak to state and national media**. NTMA receives numerous requests weekly from the media asking to speak with business owners on manufacturing related issues. Our partners at Bracewell will help coach you as well as be on the call if you desire, to give you the needed confidence. Trust me I know how nerve racking it can

seem; however, in many cases member companies get national recognition.

Working together and following the suggestions of this list take very little time or effort. A little money...yes, a little encouragement...yes, a little time to open your shops to a few leaders to tour your facility... yes, occasionally taking a phone call or two for a subject matter discussion... yes. The reality is, when we speak about our industry, we speak on **"behalf of all"**. When we donate monies, we donate monies on **"behalf of all"**. When we have impact, we have impact on **"behalf of all"**.

When I say on **"behalf of all"**, I say it because advocacy is not a place where we compete with each other. Instead, it is one of those challenges that individual companies cannot effectively go it alone. We can do nothing and accept the consequences, or we join together and fight for our manufacturing lives through those who support our needs and advocate for our companies and our industry.

NTMA and our partners are proud to continue to lead and provide advocacy support for our members and industry, but it does take us all to participate to make a true difference. As my earlier example stated, if every member brings in a new member, and every member gives to advocacy an average of \$1K, it would change our association and enhance our services, your membership, and our reach and impact on the industry.

As I close the discussion about advocacy, I would say **"Stay Aware."** As I close this month's article, I want to thank you for your membership in NTMA; as it is never taken for granted. Your faith in NTMA and your membership motivates your national staff to lead the association in **"Advancing Manufacturing's Future"**.

Roger Atkins, President – NTMA

## 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.

Visit [metalworkingadvocate.org](https://metalworkingadvocate.org) for more information.

Invest in the Future of Manufacturing

# 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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# NEW MEMBER HIGHLIGHTS



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## LIBERTY MANUFACTURING GROUP

New Jersey & Eastern Pennsylvania Chapter

Liberty Manufacturing Group opened in late 2022 and is located in South Jersey, just outside of Philadelphia. We specialize in CNC machining, custom workholding fixtures and product development. Our founding team (Nick Polidori, Andison Fernandez, Donna McKean and Jeremy Jushchyshyn) have over 60 years combined experience designing, manufacturing and testing components for the electric utility and rail industries. Liberty Manufacturing Group was started after the plant closure of Connector Products Inc. Instead of disbanding, the four founders decided to start something new and continue to offer the same quality of products and customer service the Utility and OEM industry had come to expect.

Liberty Manufacturing has CNC vertical milling and bar feed turning capabilities, as well as automatic feed saw cutting, deburr tumbling and welding. Along with our manufacturing capabilities we specialize in the design and manufacturing of custom workholding solutions for CNC equipment and assembly. These fixtures range from mechanical to pneumatic and hydraulic devices and will increase production output and improve quality. Our engineering team offers services in new product design and development, including prototyping and sourcing raw materials such as custom extrusions, castings, forgings, hardware and finishings.

Our group is excited to work with new customers and be a valuable resource for innovative and comprehensive solutions. We are committed to offering personalized customer service while maintaining operational excellence. We look forward to growing a business that creates jobs and inspires others in our local area to consider careers in manufacturing.

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Cleveland Chapter

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# Trippin' in Chicago: Road Trippin' with Steve, Special Edition

By Michelle Edmonson,  
AMT Vice President, Exhibitions



*He's got a race car, some top-notch bourbon, a camera crew, access to world-class manufacturing technology, and a license to make mischief.*

Stephen LaMarca is back, and he was all over Chicago in the lead up to IMTS 2022. Tune in for all his misadventures in the new special edition of Road Trippin' with Steve, brought to you by EOS.

The special two-episode series begins with Steve—and his colossal, Pit Viper sunglasses—cruising around Chicago in the IMTS Rally Fighter, which now features a new wrap design. There's plenty of engine revving, a peek under the hood, and a minor parking crisis. And a detour. There's always a detour.

After finally parking the Rally Fighter, Steve heads to KOVAL, a distillery in downtown Chicago that's serving up organic spirits. Housed in a former metal fabrication facility, KOVAL is using automation and machine monitoring to make their process repeatable. The result? A high-quality beverage every time, whether they're making Chicago bourbon, coffee liquor, or cranberry gin. Steve and his team certainly liked the product and the technology behind it.

Dr. Robert Birnecker and Dr. Sonat Birnecker Hart, the husband-and-wife team behind KOVAL, showed Steve how a small operation can guarantee consistency using big data. Distilling is a complex process with myriad variables. KOVAL's answer to this problem was to install monitors on every piece of equipment and connect it all to a central communication system. This way, they know what's happening inside and outside the mash tanks at every second. If something goes wrong—from a change in ambient temperatures to a dip in flow rates—the distillers receive an alert. Unlike other small distilleries, KOVAL knows if there is an aberration long before the whiskey hits their lips.



### Steve's IMTS Pre-Show To Do List

- Drive a Race Car.
- Make some bourbon (and drink it).
- Talk to all the people.
- Find some great technology.
- Have too much fun.



Relive all Steve' highlights and insights in this special season of Road Trippin' at [IMTS.com/WatchRTWSspecial](https://www.imts.com/WatchRTWSspecial) on IMTS+ and [IMTS.com/ReadKOVAL](https://www.imts.com/ReadKOVAL).

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# AAA Tool & Machine and C-F Fabricators Come Together Under New Brand

AAA Tool & Machine and C-F Fabricators, both based in Southern Illinois unveiled their new logo and website at the beginning of the year. The two companies will now operate under the name, Velocity Metalworks after joining forces in the metal fabrication industry nearly two years ago.

Locations, services, ownership, and employees will remain the same under the new name.

When asked about the rebrand, President and Owner of Velocity Metalworks Brian Wort stated, “We are very excited to merge these two great companies, AAA Tool & Machine and C-F Fabricators, and to create a new brand: Velocity Metalworks. Both companies have a long history of providing our customers the highest level of quality products at a competitive price while focused on timely delivery. The new brand doesn’t change but reinforces that promise



with a strong emphasis on excellent customer service. We will continue to have two locations to best serve our customers, retain the same strong technical teams currently making our products and servicing our customers, and additionally striving to maintain our great value.”



*Velocity Metalworks, located in Hoffman and O’Fallon, Illinois, provides full-service metal stamping, tool and die, fabrication, and contract manufacturing for tier 1 and OEM manufacturers of some of the most demanding products and industries including agriculture, automotive, construction, and more.*  
[velocitymetalworks.com](http://velocitymetalworks.com)

# In Memoriam – Pamela Rubenstein

**Pamela Silver Rubenstein** died on Thursday, December 1st, after a brief illness. She was born in Lansing, Michigan to Neil and Leah Silver. As a young child, the family moved to South Bend, where Pam grew up surrounded by her extended family. She graduated from Riley High School and earned her bachelor’s degree from the University of Michigan, where she majored in linguistics. She subsequently earned a master’s degree in linguistics from the University of Illinois at Champaign-Urbana, and a second master’s in teaching from Columbia University in New York.

Pam was CEO and owner of Allied Specialty Precision; she previously taught in public schools in Indiana and at the Citadel in South Carolina. She held leadership positions in Temple Beth-El (president 2018-2020) and the National Tooling and Machining Association. She also was active

in a wide variety of organizations, including the Jewish Federation of St. Joseph Valley, the Women in Manufacturing Association and the Michiana Gem and Mineral Society. She made friends wherever she went and maintained many of those bonds throughout her life.

Pam was a loving dog owner and an avid theater, musicals, comedy and film enthusiast; she immersed herself in baking and craft projects and Notre Dame basketball. She was a passionate art collector, and particularly enjoyed perusing new and familiar artists at art fairs. She was an avid and adventurous traveler. She had as much fun planning as taking trips that included visiting Mexico, Israel, Russia, China, Viet Nam, South Korea, Singapore and Ireland, and most of the states within the US with her son searching for geodes and other treasures.



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# Making the Connection in Washington, D.C.

By Omar S. Nashashibi, – The Franklin Partnership

Making the connection between how politicians and policymakers impact our day-to-day lives is often difficult. To many, Washington, D.C. is a faraway place where grown adults often appear to bicker, smear, and bloviate, but rarely legislate. It is a narrative reinforced by the media and adopted by the general public, but one that could not be further from reality. The U.S. Federal Government is a part of every aspect of your business, and it would make all the decisions for you if it could, were it not for groups like the National Tooling and Machining Association (NTMA).

In the 107th Congress which covered a two-year cycle from 2001-2002, lawmakers introduced 596 bills covering manufacturing. Twenty years later, members of the U.S. Congress put forward 1,403 bills mentioning manufacturing during the most recently concluded Congress, which covered 2021-2022. Lawmakers and politicians have gotten the message loud and clear – strengthening manufacturing in America is strengthening America and its values.

Last year, lawmakers made the largest investment in U.S. manufacturing and supply chains since World War II, when members first founded NTMA to support Allied efforts. In my twenty-one years as a manufacturing lobbyist, I have never seen politicians fall over themselves to the extent they have the past five years to appear supportive of manufacturing in America.

An NTMA member testified before the U.S. Congress in the summer of 2022 in support of creating a federal government website, [manufacturing.gov](https://www.manufacturing.gov), to serve as a clearinghouse of federal government programs to support manufacturers – President Biden signed it into law in December 2022.

The semiconductor and supply chain legislation which became law in August 2022 specifically mentions tooling as one of seven critical areas identified for priority “domestic

supply chain resiliency and optimization.” This law specifically focuses on downstream manufacturing, emphasizing the domestic The Inflation Reduction Act, also signed into law in August 2022, contains billions in tax incentives to promote manufacturing.

The 2021 infrastructure law increased domestic content requirements and President Biden signed an Executive Order in March 2022 increasing government contracting Buy America thresholds from 55 percent to 60 percent on October 25, 2022, which will next increase to 65 percent in 2024 and then to 75 percent in 2029.

Also on NTMA’s watch last year, Congress allocated an additional \$11 billion for R&D and workforce training, expanded apprenticeship opportunities, and increased funding for career and technical education to historic levels. All the while requiring community colleges and other groups applying for federal grants to include private manufacturing sector stakeholders as part of their application submission.

Regulators, however, may not have received the same memo as politicians in the White House and on Capitol Hill. NTMA is anticipating the busiest year for federal regulations in recent memory, often with new policies that will increase the cost of manufacturing in America – that is unless NTMA, its members, and the industry stand up and have their voices heard in 2023.

OSHA is planning to regulate indoor workplaces when the heat index reaches 80 degrees Fahrenheit, working to change lock-out tag-out tool change procedures, and mandate more reporting and recordkeeping requirements. Elsewhere in the Labor Department, regulators in May plan to announce an increase in the overtime exemption threshold possibly

to at least \$50,000 for annual salaries, increasing operating costs for thousands of manufacturers (NTMA members report this change could affect 10 percent of their workforce).

If NTMA is to succeed with the regulators as it has with the legislators, it will need one key ingredient – its members. NTMA uses many tools to lobby politicians, among the most despised yet effective, are political contributions. My grandmother who lived until 101 years old, used to tell me, “live life as it is, not as it should be.” In an ideal world, politicians would act on the merits

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“If NTMA is to succeed with the regulators as it has with the legislators, it will need one key ingredient – its members.”

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of the argument after hearing from all sides. In the real world, however, politicians need paying customers, just as do manufacturers, and that is why the NTMA uses donations to its Political Action Committee (PAC) to support candidates for Congress who support America’s machine shops, and tool and die makers.

Over the past decade, NTMA members donated hundreds of thousands of dollars to the PAC, which accepts donations only from individuals who are association members. These funds are used to enhance

the industry’s voice in Washington and help elect members of Congress who share a common value – to strengthen manufacturing in America. This past decade of investments has come to fruition – it took time, sweat, and yes dollars – but lawmakers on Capitol Hill today widely recognize that manufacturing is the backbone of our economic and national security.

Such a sentiment did not exist twenty years ago when lawmakers introduced a third of the number of manufacturing bills put forward today, when presidents rarely referenced manufacturing in their State of the Union address, and when policymakers simply thought of manufacturing in the context of unions and multinational OEMs.

NTMA has changed the direction of manufacturing in America for the next decade through its advocacy efforts over the past ten years by using the support of generous donations from association members to the NTMA PAC. The change in attitude towards manufacturing careers and employers is clear, but this change did not come easy, nor without contributions to campaigns of politicians from both parties.

My grandmother lived life to the fullest and as it was, not as it should be. We may not like the connection between Washington and the success of our businesses and industry, but it is the reality in which we live. Making a difference takes time, patience, and yes, donations to politicians.

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*Omar Nashashibi has worked with clients, members of Congress, agency officials, public policy foundations, non-profits, and media in Washington, D.C. A founding partner of The Franklin Partnership, Mr. Nashashibi works with members of Congress on behalf of his client on a variety of issues from trade to federal funding opportunities to telecommunications.*

# Content Distribution & Promotion

## Advocacy for Your Company's Authority

By Ed Marsh, Consilium Global Business Advisors, LLC

NTMA's emphasis on advocacy creates awareness and supports the long-term goals and vision of association members. It helps legislators, regulators, and the public understand the importance of precision manufacturing to the economy.

What's the analog for your company specifically? How can you help your customers, prospects, local community, and state and local legislators and regulators understand your team's skills and resources, and your firm's economic impact?

Traditional channels like chambers of commerce help reach some, but decreasing engagement with social organizations attenuates their value.

The internet provides reach and influence that many companies fail to fully appreciate. Content distribution and promotion offer a low-cost channel to engage with prospects and customers, and beyond. Think of it as your own advocacy effort; an economical investment with big impact!

### DEFINING AND QUANTIFYING CONTENT

You've likely heard the term "content" used frequently and vaguely. What does it really mean?

It's information that's generally made available online. Content includes articles,

webinars, recorded presentations, training, knowledge base articles, "tech notes" emails, videos, social media posts, downloadable guides, whitepapers, checklists, calculators and other materials.

In a marketing context, content is information that's used to achieve SEO success, engage website visitors, and "convert" visitors to leads. In a sales context it's information that used to help sales convert leads to sales meetings, meetings to active opportunities, opportunities to closed/won deals, and single deals to ongoing relationships.

Content can also be used to share your company's contributions to the community, region, state, and society. Examples include the financial, in kind and volunteer contributions to local organizations; hiring and promotions; participation in regional initiatives; impact on the economy and tax base; contributions to community goals like water conservation; support of public and vocational education; and highlighting your company's role in notable events such as a celebrated aerospace launch or medical device introduction.

Publishing content online provides limitless potential reach. But just as in precision manufacturing, process and rigor matter. Each piece of content must be carefully engineered into your overall program and then executed precisely.

The required rigor is downplayed by marketing agencies, SEO consultants and software companies who sell a story of easy success – just hit the publish button and everything will be rainbows and unicorns it seems.

You know better.

### ENGINEERING CONTENT – THE PROGRAM AND EACH PIECE

Unlocking the value of content is simple but not easy. Three high-level concepts will support success.

**First, all content must directly answer a question that's meaningful to your audience.** You must truly understand their perspective through qualitative and quantitative research to learn the questions are they asking – not about your machining service and products, but about their business, their customers, and even their customers' customers. Prospects will focus on improving their process, streamlining procurement, reducing costs, and growing their business, while your community audience, local government and other audiences will have other priorities.

Excepting press announcements, content should rarely about your company and capabilities. It must speak to the priorities of the audience, with gentle supporting

reference to how you help. This will feel odd and counterintuitive; it's critical to success.

**Second, content execution must be technically precise to realize its value in helping your business attract new audiences.** Research and SEO details are complex, but this extra 10% effort is the key to unlocking >75% of the potential value.

**Third, your content must be conversational with a degree of technical detail appropriate for the targeted audience segment.** Prospect buying teams often include >10 people, each of whom represents a different business function and departmental perspectives/priorities. Customer and community audiences are equally diverse. Technical writing is for spec sheets; effective content is like a conversation, and depends on your audience.

This often feels awkward. Remember, so did programming a CNC the first time. It's just different. Check out Marcus Sheridan's great book They Ask You Answer for more.

### CONTENT DISTRIBUTION & PROMOTION – YOUR COMPANY'S ADVOCACY PROGRAM

That's the purpose of content distribution and promotion. Paid press releases can help you reach large audiences. Local news

outlets often welcome announcements and share news for free.

Properly crafted social media posts can reach new audiences, especially with software to automatically share them across your team's profiles.

LinkedIn offers inexpensive content promotion to specific audiences on LinkedIn, and regional business organizations normally welcome contributions to their newsletters.

Finally, don't overlook email. Segmenting your contact database (prospects by industry, customers, vendors, community, local media, local government, regional and state government and regulators, etc.) simplifies distributing content to the right audience so your relevant insights keep you top of mind.

With planning, modest resources and rigorous execution of content distribution, you can create and operate an advocacy program for your company that complement NTMA's national effort and support lead generation and sales.

*Ed Marsh is a United States Veteran, Keynote Speaker, Consultant and Independent Director for Consilium Global Business Advisors, LLC*

# Stay Aware of Opportunities to Advocate

by Michael Watkins, MBA/JD, EBITDA Growth System



Despite supply headwinds, labor shortages, and an uncertain economic environment, the manufacturing industry continued to surpass expectations in 2022. While overall demand and production capacity have hit recent highs, there are indications, however, that the near-term outlook may not be as bright.

The industry is currently experiencing concerns related to inflation and economic uncertainty. In addition, manufacturers continue to grapple with talent challenges that may limit the industry's growth momentum. Moreover, supply chain issues including sourcing bottlenecks, global logistics backlogs, cost pressures, and cyberattacks will likely remain critical challenges in 2023.

## SO, WHAT CAN WE DO?

One of the most impactful things that we can do is to personally take a more aggressive posture towards the well-being of our industry. In other words, we can advocate for our industry. There is strength in numbers, and the more of us that we are able to enlist in the cause, the better things can be in 2023.

Advocacy may be defined as any action that speaks in favor of, recommends, argues for a cause and/or supports or defends, or looks to influence decisions within political, economic, and social institutions. Industry advocacy typically occurs on three levels – national, state, and local:

- National advocacy is carried out by NTMA and other national manufacturing trade organizations
- State advocacy is carried out by the various NTMA chapters, MEPs (Manufacturing Extension Partnership) and state chapters of other national manufacturing trade organizations
- Local advocacy is where you come in as a member of the US manufacturing community

## WE CAN DO THIS.

We just have to be aware of our opportunities. As an NTMA member you are already supporting national and state advocacy activity. In order to maximize on that investment, we would encourage you to attend NTMA conferences and take part in your local chapter meetings. It will give you an opportunity to find out where those membership dollars are being spent, and to what effect.

Your opportunities for local advocacy will most likely look like working with other owners within your community to support them in strengthening their voice on the workforce and supply chain issues that affect us all. Generally speaking, influencing through direct, private communications with decision-makers are our most powerful and cost-effective advocacy tool. We should use those opportunities to raise awareness and to mobilize others to take action.

To summarize, manufacturing has proven to be fairly durable in 2021-2022 but may experience some critical challenges and areas for concern in 2023. Now is not the time for us to be passive. We need to be actively engaged with others in our community to advocate for our industry. Fortunately, there is plenty of manufacturing advocacy at the national and state levels, but there is strength in the numbers that we represent on the local level. So, in the words of Hillel, the famous first-century scholar. "If not you, then who? If not now, when?"



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# Q&A with Gisbert Ledvon

## WHAT'S HAPPENING IN THE MACHINE TOOL MARKET

We recently sat down with Gisbert Ledvon, our Director of Business Development for Machine Tools, to talk about the important things happening in the machine tool market right now. From control advancements and connectivity to emerging technologies, we cover it all in this discussion.

Find out from an insider where things are heading and which opportunities may help your situation.



**Question: Who are you working with on a daily basis? Who's your customer?**

**Gisbert Ledvon:** I primarily work with two types of customers. One would be an OEM customer and they can be from various countries around the world. We help them to do two things: to apply the latest motion technology to their equipment and train their application engineers on the new features and functions HEIDENHAIN offers on motion control and on CNC systems. We demonstrate how the latest HEIDENHAIN features on their machine tool can outperform competitors.

The other group of customers would be end users...the people who buy the equipment and make stuff you and I use on a daily basis. From a HEIDENHAIN perspective, if customers are investing in more-advanced machining applications (controls), we want to make sure that they can utilize that equipment as efficiently and as quickly as possible. We want to make that learning curve as short as possible.

**Q: What are OEMs looking for? What do they come and look to you for? What are they asking for?**

**GL:** The mechanics of machine tools are, more or less, the same for many of the builders out there. Construction materials (e.g. cast iron, polymer granite or welded design) can differentiate some, but to really stand out in a competitive machine tool market, OEMs are turning to motion control. They're looking for ways to make sure that the machine they've designed is moving as fast, as accurate and as dynamic as possible.

Our OEM customers ultimately come to us because HEIDENHAIN really can offer a complete motion solution; they can get a full package to optimize their machine design to its full potential. Other CNC builders might be able to provide the control, but they cannot provide the other components: the linear scales, rotary encoders, drives motors, CNC control and touch probes for tools and workpieces.

**Q: What is the end user most commonly coming to you asking for? What are they coming to you looking for?**

**GL:** A lot of times we're working with end users who are stepping up from a relatively simple controller to one that's much more powerful, with more features and capabilities. Our job is to take the fear or hesitancy out of the operators and programmers, to make sure that they have an easy transition and eventually reach the fullest potential of what they can do with the control, especially when it comes to 5-axis machining.

Also, we want to get the next generation of operators in front of these machines as much as possible. We work to make sure that the next generation of operators can embrace a powerful control. The next generation of operators doesn't just want to push buttons. That's over. The younger generation wants to be a part of the process. They want to take the responsibility to do something right. They want to make a part on their own and our solution is really a perfect setup for that.

They can do it all with a HEIDENHAIN control; it's very unique compared to other controls where you rely 80, 90, 100 percent on getting a perfect CAD program to run a program on your machine. We're empowering that new generation of operators to take responsibility.

**Q: How do HEIDENHAIN products help integrate machine tools into concepts like Smart Manufacturing or Industry 4.0?**



HEIDENHAIN'S NEW TNC7 CONTORL

*"We work to make sure that the next generation of operators can embrace a powerful control."*

**GL:** You have to have reliable processes to even think about these concepts. Motion control and CNC can fundamentally help with reliability. When you're connecting machines, you want to have flexibility to put this part on that machine. Or, if you have to change the schedule, you might need to change the parts beyond that, on a different machine. The more consistent motion control you have on multiple machine tools, the better off you're going to be.

Controls like ours are very capable of networking. That means they have the flexibility to take something from the network—a program, tool and setup data needed to cut a particular part or to speed up the process. At the same time, the control system has to be able to provide data to an ERP system or any other monitoring system. You want to make sure that your control is able to give you predictive maintenance information. The next step is to consolidate all that data into a data stream or a monitoring system for reference and improvement.

**Q: Does artificial intelligence have a role in machine tools?**

**GL:** We did this already. We didn't call it A.I., but if you think about what we can do on the motion control side now, we can predict certain ways the machine is going to behave. For example, our AFC feature, Adaptive Feed Control.

If we're machining a part and all of a sudden the thickness of the part changes, the

machine will sense the chip load or the load on the spindle and feed that information back to the control. The control will recognize the situation and slow things down to avoid breaking the tool. Even though the programmer forgot to tell the machine, the control is smart enough now to look at the situation and make a real-time decision.

With the new TNC7, you can even machine an entire part to collect all the data—the movements, the spindle loads, speeds and feeds—on a particular part. That data is stored in the control and when the next part is cut, the machine will monitor all my motion and color code where things deviated from the original perfect part.

**Q: What are State Monitor and Plant Monitor?**

**GL:** There are a lot of monitoring solutions out there. And people maybe say, what does HEIDENHAIN know about software? Similar to the controls, we made this a plug-and-play solution. It's something you can use without having a business degree, quickly analyze the stats, and see what's going on with the machines. It's more visibility to bottlenecks and improved productivity and don't even have to have a HEIDENHAIN control in your shop.

If you have multiple plants across the country, across the world, now with Plant Monitor we can connect multiple State Monitor locations and organize all that in a very condensed overview. Somebody in the

headquarters can make very quick decisions to move parts around, depending on where maybe logistic issues are. Plant Monitor gives you that flexibility to look at that type of macro information very quickly.

**Q: Could you explain the concept of a digital twin?**

**GL:** The digital twin has been out for a few years now. They usually help verify the tool path and that there aren't any types of collisions using CAD data to create the toolpath. The digital twin will also help the programmer determine how to maximize the machine's work envelope without interfering with any component mounted on the work table or within the work envelope.

We have a little bit different approach. We work with the machine tool builder, and we ask for all the information, as far as what components he's using, how big the machine is and what the dynamics are. We basically build a digital twin in the control based exactly on the specific machine tool.

That gives us an advantage because now we know how that machine tool actually behaves based on the mass, the size, the motor, the encoder technology. So, when we do a prediction of how long it's going to take to cut this particular part, we have a much better understanding, and we can do a much more accurate calculation.

**Q: Should users standardize the machine tool or the control?**

**GL:** People standardize on processes. They'll buy the same machinery and equipment so that the same processes can be followed consistently. The problem with that is if you standardize on a brand in the machine tool world, you're going to be very quickly limited to what you can do. What if the machine brand isn't offered in 5-axis or a size that's big enough or small enough or fast enough for new or different work?

Instead of standardizing on a brand of a machine tool, you should rather standardize on a control system on the CNC. It gives you a lot of flexibility to move your operators around. Operators can achieve X result no matter the machine if they are trained on a standardized control. A big new order can be managed expertly, no matter the machine, thanks to consistent controls.

Standardize the whole motion system and it takes performance to a totally different level. Don't put your time into standardizing the machine tool, standardize what's driving the machine tool to the way that works best for you.

**Q: What has you excited about the machine tool industry right now? What are you looking forward to?**

**GL:** I'm still excited about the fact that more and more people are still discovering what can

be done with machine tools. Industries will still, all of a sudden, realize something new that can be done with machine tools. And it's often something no one would have ever imagined 10 or 20 years ago. Who would imagine that somebody would machine a bone plate for a knee or face? Who would have thought we'd machine crowns out of metal for teeth replacement? Our phones are all machined surfaces...nobody would have thought that 20 years ago when everything was made of plastic.

I'm excited about finding more things that can be machined and should be machined. Additive machining is one of those. It's going to be much more relevant coming down the road and I think there's an opportunity for machine tool builders in the post-processing of additive parts. The 5-axis machining technology will thrive here, even more than just in the traditional metal cutting market segments like aerospace, mold and die, medical, etc. To be able to take a part out of that additive machine, get it over to a milling machine and get it finished accurately and quickly will be invaluable.

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**JEFF JACKSON**  
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## Electronic Power Design, Inc. Case Study

Electronic Power Design, Inc. (EPD) is an engineer-to-order electrical systems integrator with 35+ years of experience creating power systems that efficiently manage energy supplies and reduce or eliminate power system disturbances. Headquartered in Houston, TX, USA, their innovative solutions ensure that energy supply and demand are continually in balance for companies in the data center, water and waste water treatment, marine offshore, dredging, and energy industries.

For many years, EPD operated a separate production facility in China to manufacture parts that met their specific needs. When market conditions forced the closure of the plant, management deemed it a good time to seek a new ERP program that better aligned with the Houston facility's needs. Mark Bishop, Senior Manager of Manufacturing Planning for EPD, began researching ERP packages of all sizes and capabilities. He selected Global Shop Solutions and EPD went live with the software in early 2021.

“Global Shop Solutions was less complicated than our existing ERP package,” says Bishop. “It was easier to use, which minimized the learning curve for our employees. It also offered more flexibility than our old system. Most important,



EPD Shop

Global Shop Solutions offered a complete system out of the box without having to pay for features and capabilities we didn't want.”

### Watching TV on the Shop Floor Improves Efficiency

Interestingly, watching television on the shop floor has had a big impact on job costing, daily labor balancing, and eliminating production inefficiencies. It's part of a Global Shop Solutions product called TrueView™ that uses TV screens installed around the shop floor to display the real time status of work orders in progress, work orders scheduled to begin, and hot jobs that need attention. Without leaving their workstations, personnel know which jobs are on schedule and which need prompt action to meet the expected due date.

“From day one we would see a lot of jobs in red and yellow, meaning they were behind

schedule,” says Bishop. “But it wasn't long before we began seeing more green. Instead of hiding the inefficiency of how long jobs were taking, we now know where the time is being spent. This drives more accountability on the shop floor and allows us to determine why some operations were taking longer than they should.”

### BOM Compare Saves the Day

EPD's standardized product lines require massive bill of materials (BOMs) to manage the thousands of parts that allow for infinite product variations and configurations. With so many different configurations available, the same BOM rarely goes through the shop more than a few times, which necessitates building new or different BOMs that can take days to complete. Global Shop Solutions' BOM Compare software dramatically reduces the time by enabling users to create Excel

versions of their BOMs and import them directly into the system.

“There's no way we could put all our highly detailed BOMs into the system in a timely manner without BOM Compare,” says Bishop. “And that's just for the BOMs we build. The BOM for our highest-volume product comes from our partner. With BOM Compare we can easily download their BOMs with their part numbers into an Excel format, pull data from the database to identify our part numbers from the customer's BOM, and quickly convert the BOM into a format ready to import into Global Shop Solutions.”

### Managing Supply Chain Problems

As with most manufacturers, ongoing global supply chain disruptions make it difficult for EPD to manage material lead times, schedule jobs appropriately, and give customers accurate delivery dates. Global Shop Solutions' superb visibility of data and accurate inventory



EPD Testing Facility

tracking allow engineers to design around existing inventory to offer equivalent products that may have a small change.

“Sometimes we don't have the materials in inventory to make the product customers want, so we're developing new product lines to work around some of the major components we can't get,” says Bishop. “This enables us to use excess inventory that doesn't have the exact same rating and has opened up marketing options we normally wouldn't have looked at.”



**About the author – Mike Melzer** is Vice President of Operations and Service for Global Shop Solutions, a leading provider of ERP software solutions for manufacturers around the world. A 20-year veteran of the company and one of the industry's foremost ERP experts, Mike helps manufacturers use their ERP systems to cut costs, simplify production processes, and maximize their return on investment. As a graduate from The Colorado School of Mines, Melzer is an unparalleled leader, coaching the industry's top talent to ensure the continued success of Global Shop Solutions customers.

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## National Jet Company, Inc. Hardware is in Lunar Orbit!

CAPSTONE satellite with Stellar Exploration's propulsion system made it to lunar orbit on 11/14/2022! National Jet Co, Inc. ([www.najet.com](http://www.najet.com)) provided critical precision machined hardware components such as thruster nozzles and mounts used within Stellar Exploration, Inc. developed propulsion systems.

CAPSTONE (Cislunar Autonomous Positioning System Technology Operations and Navigation Experiment) is the first CubeSat to operate in a NRHO (Near Rectilinear Halo Orbit) around the Moon. It is also the first CubeSat to go into any orbit around the moon.

CAPSTONE is designed to test the stability of the NRHO, the orbit that NASA plans to use for the lunar Gateway. Gateway is a small space station that will orbit around the Moon to provide astronauts with access to the lunar surface. CAPSTONE will also test a navigation system developed by Advanced Space that will measure its absolute position in cislunar space using interaction with NASA's Lunar Reconnaissance Orbiter without relying on ground stations for navigation support.

CAPSTONE aims to reduce risk and validate operational concepts for

future missions using the same lunar orbit. CAPSTONE has an onboard communications system capable of determining how far CAPSTONE is from NASA's Lunar Reconnaissance Orbiter and how fast the distance between the two spacecraft is changing. This inter-spacecraft information will enable future missions to determine their location without having to rely exclusively on tracking from Earth.

CAPSTONE is one of the first steps to learn how to operate more robust missions in this unique orbit, thus laying the groundwork for future exploration of our solar system.

National Jet Co, Inc, is proud to be a part of this exciting mission through our association with Stellar Exploration Inc, who designed, tested, and manufactured CAPSTONE's propulsion system.

#### Information gathered from:

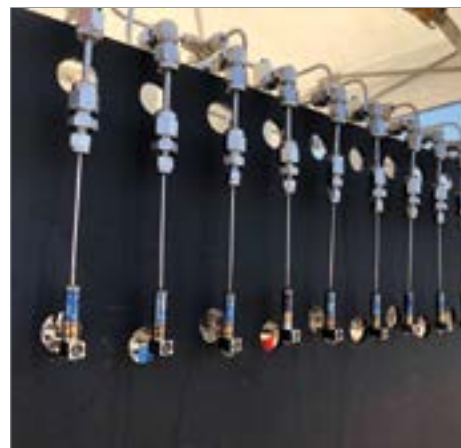
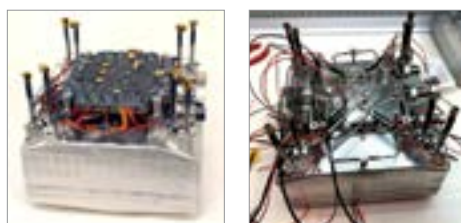
<https://www.rocketlabusa.com/missions/lunar/>

<https://spacenews.com/capstone-enters-lunar-orbit/>



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

Photos of Stellar Exploration Inc.'s propulsion system showing National Jet Company, Inc.'s thruster nozzles and mounts. **ABOVE** – 4 thruster nozzles after testing (discoloration follows the peak temperature, as expected). **BELOW, TOP LEFT** – Complete Capstone propulsion module, with 8 thrusters. **BELOW TOP RIGHT** – Module in assembly, before electronics board installation. **BOTTOM** – 12 thruster nozzles ready for hot fire testing.



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# 2023 NTMA CALENDAR OF EVENTS

Please contact Kristen Hrusch, our Events Manager,  
for more information and to register:  
**Kristen Hrusch - khrusch@ntma.org 216-264-2845**  
or visit [www.ntma.org/upcoming-events](http://www.ntma.org/upcoming-events)

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**Chapter Leadership Summit - January 25-27th - Albuquerque, NM**

An exclusive event for NTMA Chapter Leadership, CLS is all about maximizing NTMA membership at the local level. Learn ways to engage your chapter and build your regional coalition for stronger companies and a stronger industry. Don't miss this opportunity to connect with your fellow NTMA Chapter leaders!



**Emerging Leaders Conference - March 8-10th - Knoxville, TN**

To ensure the future success of our businesses and our industry, we have to build the future today. NTMA gathers the best and brightest up-and-coming industry leaders to network, share knowledge, and brainstorm about tomorrow's manufacturing industry.



**NTMA/PMA One Voice Fly-In - March 28-29 - Washington D.C.**

NTMA's Advocacy at its finest! Members of the Government Affairs Team are invited to join The Franklin Partnership on Capitol Hill to speak with Senators and members of Congress to discuss policy and to promote and protect the industry with these key lawmakers.



**MFG 2023 - April 26-28th - Phoenix, AZ**

NTMA partners with the Association for Manufacturing Technology (AMT) for this interactive 3-day discussion of the technological advances, innovative strategies and real-life case studies. It's the perfect platform for manufacturers to gain and share industry knowledge.



**International Tech Tour - May 6-12th - Germany & Switzerland**

Take this opportunity to learn and observe global best practices that can be applied in your own company. We've scheduled strategic stops and tours to highlight some of Europe's most successful manufacturing companies.



**Engage 2023 - October 18-21st - Indianapolis, IN**

NTMA's signature event is not to be missed! Engage 2023, The Precision Manufacturing Conference, pulls together everything great about NTMA into three days packed with networking, advocacy, and learning. Join us as we build on NTMA's long legacy of providing precision manufacturers and industry leaders with the invaluable experience of gathering together to network, learn and advocate for the advancement and future of the industry.



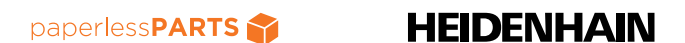
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