



**State of the U.S. Manufacturing Workforce Address
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Drake State Community & Technical College
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Thank you, Jay, for that introduction; thank you for your leadership at the NAM; and thank you for your incredible support of the Manufacturing Institute.

Thanks also to President Sims and Drake State for welcoming us today. It's fitting that we're here at Drake State—one of the newest chapters of the Federation for Advanced Manufacturing Education.

And that's because when we talk about the future of the manufacturing workforce, FAME is at the very center of that conversation.

Drake State is also a proud HBCU – one of a group of schools established to expand the reach of education and make real the promise of our country.

Because manufacturing is not just about innovation and economic growth; it's about opportunity. It's about ensuring that every community, every aspiring maker, builder and creator—no matter their background—can have access to the skills, training and careers that will define the future.

We're talking today about lifting people up, creating pathways to progress and ensuring that manufacturing's resurgence reaches every corner of our country.

Today, I am honored to give the first-ever State of the U.S. Manufacturing Workforce Address not *to* you, but *with* you, and *for* you.

Here's the truth: Right now, the U.S. manufacturing workforce is at a crossroads. We have momentum; and as Jay said earlier this week: Manufacturing is moving forward. And when manufacturing is moving forward, there is no stopping America.

So, we have an opportunity—and a responsibility to get this right.

THE WORKFORCE CHALLENGE

But the reality is: we also have a challenge. A major one. According to a study by the MI and Deloitte, if we don't act boldly, the U.S. faces a shortfall of 1.9 million manufacturing workers by 2033. 3.8 million positions will open up, but nearly half could go unfilled. That's not just a workforce issue—it's an economic and national security issue.

These are high-paying, family-supporting jobs in one of the most innovative industries in the world. In fact, the average annual earnings for manufacturing employees, including pay and benefits, is more than \$102,000. Yet we continue to face a structural workforce deficit. And that's the key word: structural.

Over the last 12 months, we've been averaging about 500,000 open jobs. This isn't a short-term trend—it's a systemic challenge.

It's driven by retirements—2.8 million workers are aging out of the workforce.

It's fueled by industry growth—760,000 jobs will come from expansion.

It's built by new investments—230,000 jobs will be created from recent policy actions like infrastructure, reshoring and technology adoption.

And with technology evolving rapidly, we don't just need more workers—we need more workers *with* new skills.

CHANGING PERCEPTIONS, EXPANDING TALENT PIPELINES

So how do we change this trajectory and address this essential need?

First, we have to inspire more Americans to see themselves in manufacturing. That starts early, with programs that spark curiosity and excitement for careers in our industry. And when I say early, I mean as young as 9 or 10 years old—because today's 4th graders will graduate in 2033 and may be our future team members.

We're leaning into this idea with programs like MFG Day - a nationwide initiative that introduces students, parents and educators to modern manufacturing.

Because when we open factory doors and show off high-tech careers, we can challenge outdated perceptions about manufacturing.

We have also created effective tools for employers to engage students—like our new “Innovators Quest.” The Innovators Quest is an interactive, hands-on experience that takes elements of classic board games like *The Game of Life* and blends them with the storytelling and problem-solving of today's most popular fantasy games.

We created it, thanks to the support of Honda, so that manufacturers could bring the excitement of modern manufacturing directly to students. We want kids to explore the best parts of manufacturing: solving problems, working as a team, finding solutions, leveraging technology and tapping into their imagination.

We are sending a message: Creators Wanted. We need the next generation to know: If you want to build the future, manufacturing is where you belong.

Of course, generating interest is only the first step. We also have to create clear pathways for people to enter our industry and advance. That's where apprenticeships,

skills training and work-based learning come in. And that's why we're so focused on FAME.

FAME – THE NEW AMERICAN MODEL

FAME is the Federation for Advanced Manufacturing Education. FAME *is* the new American model for manufacturing workforce training, that is the envy of the world.

That's because it's the gold standard for how employers, educators and communities should work together. It's a private-public partnership that equips and trains workers through hands-on experience while earning a degree. You can feel and see the energy from that right here at Drake State.

Originally founded by Toyota and now led by the MI, FAME is proving what works.

Right now, more than 450 companies are involved in this effort, supporting more than 40 chapters across 16 states.

Too many Americans have been told that a four-year degree is the only path to success yet nearly half of all open jobs in manufacturing today do not require a degree. But they **do all** require skills.

So, here's what too many people miss: manufacturing apprenticeships, hands-on training and technical education that lets students earn-while-they-learn provide skills that lead to six-figure salaries—without the burden of student loan debt.

Over two years, students in programs like Alabama FAME can easily earn more than \$30,000, which can cover all of their education expenses. With grants and financial aid, most complete the program debt-free. And the overwhelming majority of FAME graduates transition into full-time jobs after graduation with their sponsoring companies.

And the benefits do not end there, FAME graduates are earning higher wages and being promoted faster than their peers in other programs.

And let me be clear: these graduates aren't just skilled workers. They are leaders in manufacturing.

Take Ellery Kring, who started as an entry-level worker at Bosch in Kentucky. When she learned about FAME, she saw an opportunity to build a career, not just have a job. When she graduated, she became a Manufacturing Engineering Systems application engineer and then took on a new role in IT infrastructure, most recently being promoted to Sr Production IT Engineer. "If it wasn't for FAME," she said, "I wouldn't have seen this department or known that I'd be interested in such a job."

And then there's Kristy McCrary, who found FAME while searching for a way to support her family. She landed a job with Boise Cascade, who sponsored her through the AMT program. "When I came into this program," she said, "I didn't know anything about manufacturing, but I knew I wanted to be part of something that makes America stronger." Today, she's still with Boise, where after several promotions, she now leads maintenance planning and scheduling.

And just look around us, this campus, this community. It's full of our next generation of manufacturing leaders, future FAME graduates, that will have their own stories to tell.

Dr. Myron Parks, your FAME Coordinator, said it best: "Students go to school two days a week and work three days a week. Within five years of graduating, they can be earning six figures. You can't beat that at 25 years old."

That's the power of FAME. That's why employers like Toyota Alabama, Mazda Toyota Manufacturing, Blue Origin and Plasma Processes are investing in it. FAME isn't just about technical skills—it's about building the workforce of the future.

THE AI REVOLUTION AND MANUFACTURING'S RESPONSIBILITY

That matters—because the future is approaching faster than ever before. Artificial intelligence used to be the stuff of science fiction, but today, AI is not just arriving—it's here. And with it comes extraordinary opportunity and real concerns—including one of the questions I hear most, “Will AI take our jobs?”

As industry veterans say, manufacturers are not going to be replaced by AI, **but** they will be replaced by manufacturers who know **how** to use it. And we know something about this, because manufacturing has been at the forefront of AI adoption for years—integrating automation, robotics and machine learning into production to enhance efficiency, safety and innovation. And what makes our industry different is that we don't just deploy technology—we prepare people to work *alongside* it.

That's why the manufacturing industry has to lead the way in preparing the workforce for an AI-driven future. We **can't** let uncertainty stall progress. We **must** double down on training, apprenticeships and education so the workers of today and tomorrow can thrive in an AI-powered world.

The AI revolution is happening—with or without us. And the question is: Will America seize the opportunity to lead? We need to own this transformation, not be owned by it.

UNLOCKING UNTAPPED TALENT

Now, AI won't solve our workforce challenge. Technology is only as powerful as the people behind it. And right now, we have an opportunity—and responsibility—to expand the talent pipeline by connecting with those who have been overlooked, underestimated or untapped.

With so many jobs to fill, we need everyone—veterans, career changers, second-chance hires and skilled workers from every background—to be a part of manufacturing’s future.

That’s why we are focused on opening new doors and ensuring that manufacturing careers are within reach for all Americans.

Veterans and transitioning service members.

Today, manufacturers employ more veterans than any other private industry sector, with roughly 980,000 veterans working in manufacturing in 2023. Yet many more are still left out—and with 428,000 open jobs today, manufacturers need their skills.

That’s where the MI’s Heroes MAKE America initiative comes in. Since 2018, Heroes has trained and placed over 1,500 veterans into manufacturing careers, issuing more than 7,600 certifications. And Heroes is growing, ensuring more veterans can translate their military skills into manufacturing careers.

Take James Goppert, a retired United States Army Sergeant. While transitioning to civilian life, James took part in the Manufacturing Institute’s Heroes MAKE America initiative, gaining valuable experience, skills and insight into the manufacturing world. James is now a human resource business partner with Smurfit Westrock, providing strategic counsel to organizational leaders, ensuring the company has the workforce talent needed to execute business plans.

Our Manufacturing Readiness Project, supported by Walmart, is helping to bridge the gap between military service and manufacturing careers. It’s creating a comprehensive skills-matching model that translates military training into sought after manufacturing credentials. This translator will ensure that military training in safety, quality and maintenance – as well as logistics and leadership in the coming months— will be

recognizable to manufacturers, creating an expanded and seamless pipeline for veterans into high-demand roles.

Women in manufacturing.

At the same time, we're encouraging more women to bring their skills and expertise to the industry. There is an extraordinary pool of talent out there who haven't always seen a role for themselves in manufacturing.

To solve this, through Women MAKE America, we are elevating the women who are leading in manufacturing today at every level—from the shop floor to the C-suite.

We are creating more opportunities, increasing mentorship and breaking down barriers so that manufacturing is a place where anyone with talent and drive can succeed.

Second chance hiring.

That opportunity extends to everyone—including those who have been unfairly turned away in the past. One in four Americans have been involved with the judicial system—one in four—which may be a barrier to meaningful work. The MI is helping manufacturers develop second chance hiring strategies, recognizing that talent is talent—and potential shouldn't be wasted

Skills-based hiring.

In fact, that philosophy—a focus on skill and potential—is helping to drive our approach. We know that experience in different roles, from military service to hands-on expertise or comparable experience, can translate into success in manufacturing. And I'm proud to say that leading companies are recognizing this idea, and making hiring decisions based on skills—not just credentials. This shift is essential as more and more

manufacturers recognize that the solution to our structural talent challenge is to expand the pool and invest in developing new talent.

RETENTION – BUILDING STRONGER WORKPLACES

But attracting talent is just half the battle—Manufacturers know that it's not just about **hiring** new talent, it's about **retaining** that talent. That means building a culture of belonging and focusing on career development and lifelong learning.

Ignoring this leads to burnout, stagnation and inertia. Companies investing in training, reskilling and upskilling experience higher retention rates. When workers stay longer, work better and rise higher, they invest their expertise back into the business. At the MI, we're determined to support that kind of approach—and to help manufacturers work together with their employees to deliver a better future for everyone.

THE ROLE OF IMMIGRATION – A PRAGMATIC APPROACH

So that's a start—but it's not the end.

The reality is, we need more people—and that means drawing on the skills of men and women who want to make America home. And the numbers are clear—we won't meet our workforce objectives without immigration policies that support an effective and efficient manufacturing industry.

This isn't about politics. It's about ensuring America has the workforce to compete. As Jay said earlier this week in Ohio, "We must modernize our immigration policies to meet the demands of a nation that wants to make more in the United States." Smart immigration policy can help manufacturers fill critical roles while maintaining both our national security and our economic growth.

So let's lean into those policies and help our industry **and** our country meet its potential.

MANUFACTURERS LEADING THE WAY

These are all critical steps, and there's a great deal to do—but here's the good news: Manufacturers aren't waiting. They're already shaping the future of the workforce.

Investing in their employees through training and career development.

Partnering with schools and communities to build talent pipelines.

Creating clear, skills-based career pathways so workers can grow within the industry.

Companies large and small are stepping up. (*faster*)

Ketchie, a small, family-owned precision machining company in North Carolina, is preparing the next generation of manufacturing talent through its Opportunity Knocks internship program. After class, high school students head over to Ketchie, where they shadow experienced machinists in their factory. They're getting experience in precision machining—and also training, character development and skills that will help them land jobs after graduation.

At **Caterpillar** and The **Timken Company**, young professionals aren't just learning about manufacturing—they're getting hands-on experience that prepares them for leadership.

Early-career team members at Caterpillar rotate through different roles, learning everything from engineering and operations to supply chain management.

Timken, known for its world-class bearing and power transmission solutions, invests heavily in training and mentorship, ensuring its employees gain the technical skills and business acumen needed to keep manufacturing moving forward.

Cornerstone Building Brands is taking a direct approach with the Ply Gem Pro Academy, where exterior contractors aren't just learning installation techniques—they're mastering efficiency, business growth and craftsmanship.

This training program puts tools in the hands of contractors and gives them real-world experience that helps them succeed—building up an entire industry and the communities that depend on it.

Later today, we'll be visiting **Toyota**. Toyota is investing in workforce training that prepares employees for the future of automation, advanced manufacturing and robotics. And their commitment to upskilling is ensuring that as manufacturing evolves, workers evolve with it—and help to lead the way.

THE MOMENT TO ACT IS NOW

You can see why I'm optimistic about the manufacturing industry.

With all the new technology, all the investment and all the opportunities ahead, we have a choice: Invest in people now, so they can take hold of these opportunities. Or limit how fast we can grow, how competitive we can be and how strong America can become.

The MI is here to help manufacturers navigate this challenge. We are building momentum. We are helping the industry scale solutions that work. But we need more leaders to get engaged.

CALL TO ACTION

So here's my ask:

If you're a manufacturer, lean into these workforce solutions.

If you're an educator, partner with industry to build clear pathways for students.

If you're a student or job seeker, know that manufacturing offers incredible opportunities for a rewarding, well-paying career.

And finally, to the students here at Drake State—I want to speak directly to you.

You are not just learning a trade. You are stepping into an industry that is shaping the world, defining the future and building the foundation of America's strength.

You are the innovators, the problem-solvers and the leaders of tomorrow's manufacturing industry.

The world **is** changing, and with it, manufacturing **is** evolving. Advanced technology, automation and AI are transforming the way we build, create and design. And you—right here, right now—are on the front lines of that transformation.

Your skills, your determination, your vision for the future will help make America stronger, more prosperous and more competitive. You have the opportunity to be part of something bigger than yourself—to build a career that provides not just a paycheck, but a purpose.

So, my message to you is simple: Lean in. Be bold. Seize every opportunity before you. Manufacturing is more than a job—it's a calling. It's a career that allows you to create, to innovate and to make an impact. And right now, manufacturing needs you.

Drake State will give you the tools. The industry is ready to welcome you. The only thing left is for you to step forward and take your place in the greatest industry on Earth.

Together, we can build the workforce our country needs. Because when manufacturing is strong, America is strong. And when manufacturing is moving forward, there is no stopping America.