



**State of the U.S. Manufacturing Workforce Address
Carolyn Lee, President, Manufacturing Institute
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Plano, Texas**

Thank you, Blake, for that introduction. You have long been one of the strongest champions for the manufacturing workforce, and I appreciate your leadership today, as well as your prior service as chairman of the Manufacturing Institute.

And to Jay Timmons, president and CEO of the National Association of Manufacturers and chair of the board of the Manufacturing Institute. Jay has been a tireless advocate for America's manufacturing sector and a true champion of the MI's work. Thank you for including this event as a stop on the NAM's annual State of Manufacturing Tour. The MI team and I are grateful for the outstanding support that you and the NAM offer as we work to accomplish our mission.

Thanks also to NTT DATA for hosting us today. Your support of this work and your engagement with the NAM's State of Manufacturing Tour is a testament to your leadership and vision for the manufacturing economy.

It is great to be with you all here today in Texas—where there are so many manufacturing success stories. Indeed, there are few better places to talk about the future of our sector.

Manufacturing Matters

Manufacturing has always been more than an industry; it's the backbone of America.

Today, manufacturing powers America's economy, leads our innovation and drives our competitiveness. And none of it would be possible without the nearly 13 million men and women who make things in America—who design, build and sustain our world.

For years, manufacturers have said the same thing: if you want a strong economy, you need a strong manufacturing workforce. If you want innovation that leads the world, you need people with the skills to put it to work.

To put it bluntly, workforce is not a side issue. It **is** the strategy.

That's never been more true than today as we face competing headwinds—from talent shortages to intensifying global competition and rapidly evolving technologies that are transforming how we work. We are at a pivotal moment, and the opportunity for our industry has never been greater.

Manufacturers stand ready to deliver growth for our communities, prosperity for our families and strength for our country. We have the chance to harness creativity, unleash competitiveness and build a stronger future.

But that future is not possible without our single greatest asset: the manufacturing workforce.

Our workforce has weathered many storms and quickly shifting currents over these last several years and continues to need to adapt to ride the constant waves of change. And as we all know, the currents aren't slowing down anytime soon.

So, while the state of the manufacturing workforce is resilient, whether we are able to truly seize this new era of opportunity depends on what we do now to address the longstanding structural issues that prevent us from seizing manufacturing's full potential.

The Moment—People Are Interested

We're living at an exciting moment. Across the country, people are rethinking the way they approach learning. They're reimagining the way to build a career. More and more, they are turning to other pathways as launchpads to their future.

Partly, that's because career routes that were once thought essential have fallen out of favor. In 2013, 40% of Americans said getting a four-year degree wasn't worth the cost. By 2023, that number was 56%.

Young people today have started to see more value in a different kind of job. A recent Harris poll found that the share of Gen Z-ers interested in blue-collar careers stood at 50%—more than twice as high as Americans overall.

This is part of an ongoing cultural shift. Every week, news outlets from PBS to Fortune are featuring stories about the critical need for technical skills, the demand for people with those skills and the durability of these careers.

So as more young people seek out skilled pathways, we must seize the opportunity to ensure they see manufacturing as a sector in which they apply those skills for a durable career.

This change in public perception of skills training is good news. We need more people. Manufacturing has been facing a structural talent shortage for many years, one that could leave us with 1.9 million unfilled manufacturing positions by 2033 according to the MI's research with Deloitte. These are great jobs—high-paying roles with significant benefits in one of the most innovative industries in America. Generating the workforce to fill them matters.

But we don't just need people.

We need talent.

And that means our workforce needs the skills to succeed.

We Need People and Skills

Our central challenge at this moment isn't recruiting our workforce. It's about preparing them, developing them and making sure the workforce of today and tomorrow is prepared for the work of the future.

That means promoting essential skills and career awareness at an early age and focusing on core skills in apprenticeships and post-secondary education settings, so that aspiring talent is ready to hit the ground running. It means continually investing in upskilling our current workforce, so their abilities consistently match the moment.

From the youngest children in our community, to the star students in our classrooms, to the most accomplished men and women on our shop floors and our leadership suites, we need to equip people for their first job and for a lifetime of change on the job.

And employers are doing this—they are recognizing the need to invest in their current talent with training to ensure they have the skills needed for today and tomorrow.

In fact, the latest research from the MI shows that manufacturers are planning to increase their focus on training this year, which is critical as an increasing number of new entrants to the workforce are seeking career opportunities from employers that are willing to invest in their continued development.

We need a workforce that shows up prepared and is constantly learning, constantly evolving and driving forward at the speed of change.

So how do we build that workforce?

Employers Are at the Center

We do it with employers at the center.

No one understands the skills manufacturing requires better than employers themselves. No one sees technological change happening in real time more clearly than the companies developing and deploying it. They know which skills are emerging, which roles are evolving and where the gaps are forming. If workforce is the strategy, then employers must help design it, lead it and sustain it. In fact, we are far past the time where manufacturers can hope that talent emerges from school with the ideal skills—manufacturers need to be front and center in this work.

That leadership must start early. When manufacturers open their doors to students, parents and educators—through plant tours, classroom visits or MFG Day events—they do more than promote their companies. They expand horizons and unveil a new universe that is high-tech, innovative and full of opportunity. For many young people, that first exposure is the moment they realize there is a home for them in this industry; that manufacturing is a place where they can build, solve and contribute.

But an employer's role doesn't stop here. It must continue through partnerships with high schools, community colleges and universities; through internships, mentorships and apprenticeship programs that blend classroom instruction with paid, hands-on learning. When industry works hand in hand with education, curriculum connects with demand. Students graduate with skills and experience. Apprentices earn while they learn. They see a pathway forward—not just a first job, but a future.

Employers like Saint-Gobain show what it looks like to take this responsibility seriously. Saint-Gobain has built a comprehensive, long-term strategy to reshape perceptions of manufacturing, through their Sustaining Futures, Raising Communities initiative, bringing modern manufacturing into classrooms and students onto the shop floor. To complement their work, Saint-Gobain will be hosting the MI's 2026 MFG Day Platinum event in October, amplifying their broader commitment to sustained community engagement and intentional perception change.

But employer leadership certainly doesn't end here either.

In an era of constant technological change, employers play a critical role in training and upskilling in order to retain their workforce. The MI found via a survey a few years ago that 69% of manufacturing employees under age 25 said training was a motivating factor in their decision to remain with their employer. When workers are given opportunities to grow—to master new technologies, to expand their expertise, to advance—they are far more likely to stay with their company. That's good for employees, good for employers and good for the industry.

But upskilling is more than a workforce tactic. It is a signal of commitment. It tells workers they are valued, that they will not be left behind by innovation and that their careers can evolve alongside the industry itself.

The manufacturers that embrace this responsibility are not just filling positions. They are building durable talent pipelines, strengthening their communities and ensuring that American manufacturing continues to lead the world.

But, at a time of many competing priorities, this is a lot to take on alone.

The MI's Role

So, here's the good news: manufacturers aren't on their own. The Manufacturing Institute is here to help. We don't just talk about the skills gap; we work with

manufacturers to build the solutions to close it. We start by listening to the demand signals of the industry and following them to identify and fill the gaps.

Our work is grounded in addressing the industry's most enduring challenges: ensuring manufacturers have access to a skilled, resilient talent pipeline amid workforce shortages and rapid technological change.

We do this by:

- Expanding and strengthening talent pipelines;
- Increasing access and opportunity;
- Supporting manufacturers with scalable workforce solutions; and
- Serving as a trusted convener and thought leader.

We are with manufacturers in the trenches doing the hard work and bringing the best practices forward to ensure that the industry is continuously improving.

Manufacturers aren't just customers in the talent marketplace—they are an essential part of the work to attract, train and retain the talent we need. It can seem daunting to take this on, but that's why they turn to the MI.

For example, through Heroes MAKE America, we are turning military excellence into manufacturing careers. We've expanded from entry-level on-site training and networking to offering in-demand high-skilled training. We've built and launched the Manufacturing Readiness Badge program, which translates military experience into validated, industry-recognized skills that manufacturers understand.

The MI is ensuring our veterans lead the next generation of American production, and we're doing this with input from employers and with support of incredible leaders like Johnson & Johnson, Walmart and many others, as well as with philanthropic partners like the GE Aerospace Foundation.

Leading employers aren't just waiting for future workers to appear. Just look at the rapid growth of the MI's FAME program—the nation's premier "earn and learn" apprenticeship model for manufacturing. Since the MI took over stewardship of FAME from Toyota six years ago, FAME has more than doubled in size. Today, it includes nearly 500 companies across 17 states, boasting an incredible 85% job placement rate with sponsoring employers.

In fact, Texas has led the way with FAME expansion in recent years, something we had the opportunity to see firsthand this morning when we toured the Texas FAME chapter at Dallas College, an outstanding educational partner that is the only college in the

FAME network hosting two separate chapters and is a model for how durable solutions for manufacturers can thrive with community cooperation.

Whether it's the employer-driven FAME USA program or our specialized pathways for veterans and the broader military community, solutions like these work. And they're addressing the structural challenges we have long faced—as we aren't just training workers; we are building a stable, world-class talent pipeline.

The MI's approaches to help employers recruit, train and retain key talent are directly tied to real workplace needs and built with real experience in mind.

And they work because they are part of a strategy facilitated by the MI that puts talent at the center. In fact, last year we partnered with a team from McKinsey & Company who assessed the impact of the MI's programs and initiatives, and they determined for every dollar invested in the MI, it generates a fivefold return in total economic impact. And we're still just in the early innings.

AI Is Supercharging the Moment

As we look forward, this work is especially important as manufacturers lean into a future that will be shaped by artificial intelligence. AI is changing how jobs are done, how people learn and how productivity is defined. Tomorrow's manufacturing workforce will need digital fluency, comfort with data and the ability to work alongside intelligent systems.

People often ask me whether AI is coming for manufacturing jobs. Here's what I believe: AI won't take your job. *But jobs will go to people who know how to use AI.* People who can leverage new technologies into the way they operate—who can use it to help them solve problems, make better decisions and get more done—will succeed in the job market and power the future.

And as AI evolves the way work is done, it's opening doors to roles and opportunities we're only beginning to see. Just as past technological shifts have changed the workplace, they've also created new paths for people to grow and contribute.

That reality makes workforce development and upskilling urgent—and essential. In order for America to dominate AI and leverage these technologies to their fullest potential, we need to ensure our manufacturing workforce is ready with the right skills.

And manufacturing is built for this moment. After all, manufacturers have led technological change before.

We'll have more to announce and discuss in the coming days, but let me just say this:

While other industries are scrambling to figure out how to adapt, manufacturers have been integrating machine learning, data analytics, robotics and smart automation for

decades. Long before AI was a headline, it was on our shop floors—powering machine vision, digital twins, predictive maintenance and advanced robotics.

Today, AI technologies are evolving at a rapid pace, and new applications powered by AI are becoming increasingly more accessible. In fact, according to our partners at the Manufacturing Leadership Council—the digital transformation division of the National Association of Manufacturers—more than half of manufacturers are already deploying AI, with 80% saying it will be essential to their growth by 2030.

Across the country, AI-powered systems are making workplaces safer, supply chains stronger and operations more efficient. Predictive analytics reduce downtime. Smart simulations accelerate product design. Intelligent automation improves quality and lowers costs. When applied the right way, AI doesn't replace workers—it elevates them, pairing human judgment with machine precision to make jobs more skilled, more resilient and more rewarding.

Like many of you, I've seen the real-world impact of 4.0 and AI firsthand. Whenever I have a chance to tour a production facility, I always ask the workers what they think of the automation, the robots, or cobots, and now AI, and the answer is always the same. It makes their jobs better. In fact, one employee put it perfectly when he told me that at 65, he's been working in manufacturing for 40 years, and while he thought he was nearing retirement age, he said, "I don't want to retire. I want to stay longer. Because right now, the job is safer. It's even more interesting. I've learned more in the last five years than I've learned in my previous 35 years—and I'm excited for what's to come."

That's the power of changing technology. But in order to harness that power, we need people who can make the most of it, and training to help them unleash their potential.

Here's the thing: There is no silver bullet coming to solve this challenge or any workforce challenge. No policy designed in Washington or any other capital can deliver a workforce built to adapt. No one-size-fits-all program can meet the diverse needs of manufacturers across industries, regions and technologies.

Instead, the answers to this moment must come from us—from manufacturers. They must be driven by manufacturing employers; grounded in real environments; and rooted not in theory, guesswork or good intentions, but in evidence and outcomes. We must learn from one another and continuously improve. And the MI can help.

Conclusion

Ultimately, manufacturing has always been about more than machines and materials. It has always been about people: about problem-solvers, builders, operators, innovators—people who show up every day to make something real, something useful, something that moves this country forward.

The future of manufacturing will not be defined by a single breakthrough, a single policy or a single company. It will be defined by the decisions we make—company by company, community by community—to invest in people, to build skills that keep pace with technology, to create real pathways into real jobs and to make sure opportunity and innovation grow side by side.

The manufacturers who do that will be the ones who win—not just in productivity, but in resilience, growth and long-term success.

So, at the end of the day, the choice for every manufacturer, and for our industry, is this: Will we let change happen to us, or will we lead? We can treat workforce as something we react to when problems arise, or we can recognize it for what it is: the foundation of our competitiveness and the key to our future.

The work may not be easy—but the choice is simple.

Manufacturing has never waited for permission to lead. We build opportunities. We solve challenges. And we know from our history—from the factories that powered the Industrial Revolution to the assembly lines that mobilized an arsenal of democracy, from the boom that built the middle class to the advanced production that created the modern economy—when manufacturing steps up, America moves forward.

Today, we have an opportunity again to share what leadership looks like—by putting people at the center of progress and by building a workforce ready not just for today, but for what comes next.

That's what this moment calls for.

When manufacturing leads, America works.

So, let's lead—together.