



Emily S. DeRocco, President, The Manufacturing Institute
Remarks at the
Mississippi Governor's Workforce Conference
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Thank you so much. It is always great to be in Mississippi. Governor Barbour is a dear friend and it's been an exciting eight years working with him on many different activities. So when he asked me to join him today, I was excited and honored.

For those of you who are not familiar with my organization, The Manufacturing Institute is the research and solutions affiliate of the National Association of Manufacturers. The Institute conducts research on a host of issues facing U.S. manufacturers and designs and implements solutions focused on building an educated and skilled workforce and accelerating innovation in manufacturing.

Over the past few months, manufacturing has enjoyed something of a national spotlight. Organizations all across Washington, from the White House and Congress to major think tanks and government agencies, have been discussing the manufacturing industry and what America must do to maintain and grow its manufacturing base. Savvy governors are on the hunt as well, looking to attract manufacturers ~ as the true wealth creators ~ to their states.

Of course, Governor Barbour was ahead of the pack, as usual, and just last month Mississippi celebrated as the first Toyota Corolla rolled off the line in Blue Springs. Over 1,000 people are working at the plant now and with several hundred new jobs still ahead, there is no better example of what manufacturing can mean to a community and a state.

Toyota is an excellent example of manufacturers investing in America, and it's possible there may be many more following their example. Recent reports from two of the biggest consulting firms in the world, Boston Consulting Group and Accenture, showed that manufacturers are discovering that China isn't as cheap as everyone thought. When you factor in everything from the shipping of goods to the availability of workers to the inflexibility of both the supply chain and the manufacturing specifics, the cost of producing goods in the U.S. is actually very competitive with the Chinese cost.

And that does not even begin to account for the risk to your intellectual property, because, let's face it, who are you going to sue if a Chinese firm steals your idea or formula or business process?

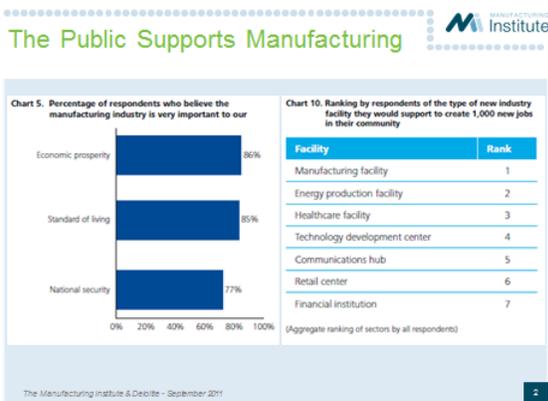
What this means is that many American companies that moved overseas are now taking a second look at sourcing in the U.S. while foreign manufacturers are seeing the benefits and stability that doing business in the U.S. provides.

Manufacturing is certainly deserving of the recognition it is now receiving because it is an industry that is truly vital to our economic security. No other industry creates more value or has a higher multiplier effect, and this results in a 53 percent compensation premium for manufacturing workers nationwide with a similar premium here in Mississippi.

Manufacturing is also the leader in generating wealth from overseas, contributing 57 percent of the total value of U.S. exports and an incredible 93 percent of Mississippi's total exports.

Of course, manufacturing also plays a vital role in our national security, building the equipment, machines, and armor that equip and protect our servicemen and women. Mississippi knows that better than most, where the shipyards along the coast help our Navy rule the waves.

[Public Perception Slide]



The American public understands how important manufacturing is to our country. Each year we conduct a public perception survey to understand how Americans feel about our industry. Not only do they believe that manufacturing is critical to our economic and national security, but when given a choice of selecting any industry to create 1,000 jobs in their backyard, the number one choice is manufacturing.

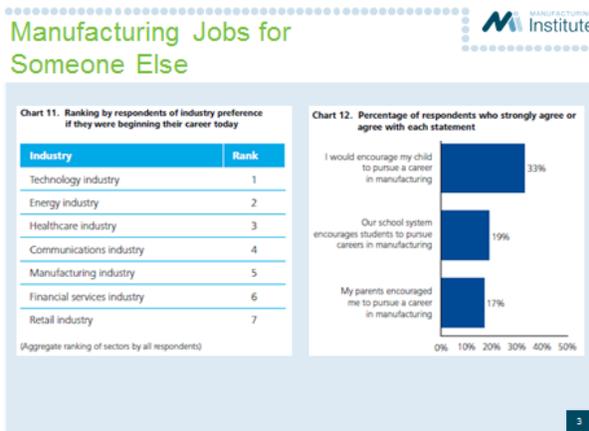
This is all good news and I believe we are truly at the beginning of a renaissance of manufacturing in the United States. But six months worth of good stories does not undo 3 decades of negativity. The steady drumbeat of “manufacturing is dying” stories and reports caused real and lasting damage to the image of our industry.

Nowhere have the effects of that damage been greater than on the manufacturing workforce. American society used to greatly value and respect men who built things with their hands. This continued through the 20th century as high school graduates sought work at the local factory and college graduates dreamed of becoming rocket scientists.

That began to change in the 70s and 80s though as parents instead began to dream of their children as doctors or lawyers or Wall Street bankers, and guidance counselors pushed students away from manufacturing careers and towards “college-appropriate” careers.

In most of our states, school systems responded to this shift in societal priorities and values by reducing or eliminating the once ubiquitous vocational programs available to high school students. Fewer and fewer students were learning the skills needed to enter manufacturing careers or experiencing the excitement and sense of accomplishment that comes from building and making things.

[2nd Public Perception Slide]



Unfortunately, this too is reflected in our public perception survey. Less than 20% of Americans said that their parents or their school system encouraged them to pursue a career in manufacturing. And when asked what industry they would choose if they could start their careers today, manufacturing was near the bottom.

There are lots of reasons for why manufacturing isn't viewed as a great career choice but one in particular that the Institute has chosen to address is the fact that most Americans don't really understand what manufacturing is anymore.

To help promote the new reality of manufacturing, we are using our Dream It. Do It. career awareness and recruitment initiative to showcase creative programs from across the country. From the Summer of Manufacturing in Pennsylvania's Lehigh Valley and the Making it Real Bus Tour across North Carolina, to the Ambassadors Program in Northeast Ohio and the Dream Team in Nebraska, these programs are changing how residents see manufacturing and opening manufacturing careers to high school students.

Jay Moon and his team at the Mississippi Manufacturers Association are leading one of those Dream It Do It teams. Their efforts are a great example of how manufacturers and educators can partner on a common purpose to help students find careers that interest them, get the training they need to enter those careers, and do it right here in Mississippi. Jay took it even a step further though. Through a partnership with Public Broadcasting, they produced and aired the *Job Hunter* series that showed how much manufacturing has changed and what jobs are really like in manufacturing. It is great way to reach both students and parents.

Changing the public's understanding of jobs in manufacturing is not only critical to maintain support for the industry, but also to replenish what has been a shrinking pipeline of talent.

Perhaps it is just a coincidence that as manufacturing disappeared from schools, a general malaise settled over public education in the U.S. High school drop out rates soared to over 30% of students. Graduates lacked the basic reading, writing, and mathematics skills needed in society. Enrollment in remediation courses at higher education increased, burdening higher education with a sort of "under preparation tax." And employers noted a decline in the basic workplace requirements like punctuality and work ethic.

The cumulative effect of these shifts was to dramatically reduce the size and quality of the pipeline of workers entering manufacturing. Unfortunately, this could not have happened at a worse time for U.S. manufacturers.

Beginning in the late 1970s and early 1980s and accelerating after the collapse of the Soviet Union and the introduction of the internet, foreign manufacturers, particularly from East Asia, expanded and began to compete directly with U.S. firms. This began a difficult and very painful transformation of the U.S. manufacturing sector.

The manufacturing sector that emerged from that transformation was completely different from its predecessor. Computer controlled robots and machines now produced and moved goods. Clean suits were as common as hard hats. And workers were now responsible for the programming and maintenance of the machines. What

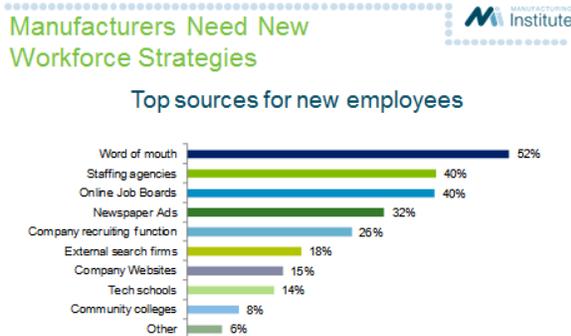
had traditionally been a low-skill, routinized workplace was now a highly skilled, customized and integrated workplace.

Manufacturers were also under pressure to innovate. To remain competitive, they either had to regularly create and produce new products or find new and better ways of making their existing products. This added a creativity and critical thinking aspect to manufacturing jobs, further distinguishing traditional manufacturing from advanced manufacturing.

Not surprisingly, it was around this time that manufacturers began to report a skills gap. They were unable to find workers who were qualified to step in and contribute to their operations. This was a real threat because U.S. manufacturers were banking on their ability to produce high value goods and stay ahead of their competitors through innovation. Without a skilled workforce though, their innovation engine would grind to a halt.

Now, to be fair, manufacturers were as much responsible for this situation as students, parents, and schools. During the leaning process, many companies cut their training budgets to a minimum, eliminating the traditional, months-long training programs that new hires would enter. Few manufacturers had a choice in this regard though, because the cost of such programs was now prohibitive in the global economy.

[Workforce Strategies Slide]



Where manufacturers erred was in not transforming their hiring practices to respond to their overall business transformation. Today, the most common approach to filling positions is basically to ask a current employee if his brother-in-law is looking for a new job. And the second most common approach is to post an opening either on-line or with Manpower and hope for the best. And next on the list is newspaper ads. How many people under 25 do you know that read the newspaper?

For the past decade or so, manufacturers have managed to get by with this approach through a combination of productivity enhancements, poaching from other manufacturers, and luck. But manufacturers' ability to work around the skills gap has just about come to an end.

[Skills Gap Slide]

The Skills Gap in Manufacturing



- 82% of manufacturers report a moderate-to-serious skills gap in skilled production.
- 74% of manufacturers report that this skills gap has negatively impacted their company's ability to expand operations.
- 69% of manufacturers expect the skills shortage in skilled production to worsen in the next 3-5 years.
- 5% of all jobs in manufacturing unfilled due to lack of qualified workers.

In a survey that the Institute just completed, over 80% of manufacturers reported a moderate-to-serious shortage in skilled production workers. 80%. Nearly 75% of manufacturers say that this shortage has negatively impacted their ability to expand, costing us an incredible number of jobs at a time when jobs are desperately needed.

Overall, manufacturers reported that 5% of all jobs in manufacturing are unfilled because companies cannot find workers with the right skills. In real terms, that is 600,000 open jobs today in manufacturing.

Those are some frightening results and make clear the threat that a lack of a skilled workforce poses to manufacturers.

In response to this crisis, The Manufacturing Institute has developed and is implementing solutions that will position the U.S. to "grow our own" talent.

The core premise of our solution is that, in manufacturing, we have standards for every imaginable input and output. Whether it is the composition of steel, the tolerance of machines, or the failure rate of a part, manufacturers can give the details to three decimal points. So we created a system that allows manufacturers to be as rigorous in the standards they apply to their most important asset - human capital.

[Founding Partner Slide]

Founding Partners & Certifications



- ACT
 - National Career Readiness Certificate
- Manufacturing Skill Standards Council
 - Certified Production Technician
- American Welding Society
 - Welding Certifications (8 different credentials)
- National Institute for Metalworking Skills
 - Machining, Metalforming, and CNC (52 different credentials)
- Society of Manufacturing Engineers
 - Certified Manufacturing Technologist
 - Certified Manufacturing Engineer

Many of you are probably familiar with industry credentials like Certified Welder or NIMS Level 1 or MSSC. Some of these have been around for a while and have started to become accepted by companies as a means of certifying the skills of current or future employees.

What the Institute has done is take those credentials that are both industry recognized and nationally portable, paired them with ACT's career readiness credential that shows someone has the basic math, reading, and problem solving skills needed for any job, and created an entry-level educational pathway that can lead to any sector in the manufacturing industry.

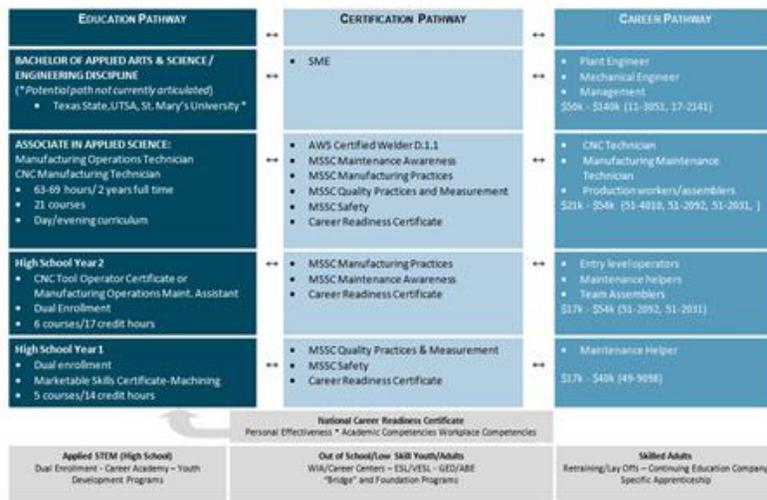
To implement these education pathways nationwide, we have found willing partners – primarily among the country's community and technical colleges.

Many community colleges already have manufacturing-related programs of study. For starters, we've asked that community colleges now incorporate our endorsed credentials into those programs so that manufacturers have a consistency in the quality of skills produced in each community college.

The work with these community colleges is now driving down to impact high school programs and up to the four-year colleges and universities. Our goal is to build an entire manufacturing talent supply chain.

[Alamo Pathway Slide]

ALIGNING EDUCATION, CERTIFICATION, AND CAREER PATHWAYS
 ADVANCED TECHNOLOGY MANUFACTURING ACADEMIES AT THE ALAMO COLLEGES

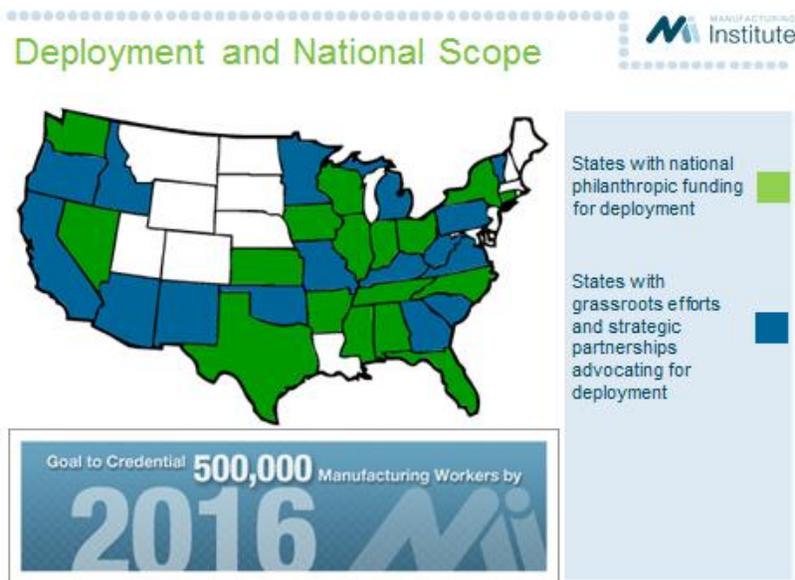


This is allowing us to align the traditional education pathways with the career pathways in manufacturing, using industry-recognized credentials as the bridge connecting the two. The example you see here is from Alamo Colleges in San Antonio and shows the pathway connections, particularly between high schools and community colleges.

What's significant about these pathways is that students can now clearly see the connection between school, jobs, and money and make informed decisions about how long they should stay in school. And by integrating these courses into for-credit programs, students have the option to leave post-secondary school for the workforce and when they decide to return, they can pick-up right where they left off and take the next step up the education and career ladder. There are very few industries that provide that kind of career and education clarity to a student.

Couple that with the fact that (1) manufacturers are hiring welders, CNC machinists, and other production talent faster than community colleges can produce them; (2) manufacturers provide a higher average wage than most industries; and (3) the lack of hiring by other industries, and what started as a pilot in only 4 community colleges less than two years ago is now being sought after by hundreds of community colleges and enjoying full enrollment where it is already available.

[Map Slide]



And once again, Mississippi is engaged.

Mississippi was one of thirteen states to receive a small grant from the Lumina Foundation to build the leadership team that would integrate these credentials into educational pathways. Over the past year, the Mississippi Manufacturers Association, the community colleges, and the career and technical education network have convened several forums where everyone was given an opportunity for their voice to be heard. It is now time to take the next steps.

Appropriate high schools and community colleges need to take these credentials and integrate them into their programs of study. This will result in the development of the pathways to build the supply of skilled workers – the technical workforce – that many manufacturing and energy employers so desperately need.

Action also must come from manufacturers. Companies need to start using skill certifications in their hiring process. This means recognizing and preferring credentials in your job postings and telling your high schools and community colleges that you want graduates who have industry certifications. By demonstrating the demand for skilled workers, manufacturers are now driving the reforms in education so critical to our nation's future.

And together, the leadership team, including many of you in this room, will have to bridge between supply and demand and ensure that manufacturers find the workers they require and individuals find the jobs that they need.

Fortunately, we have a new product that is going to help you as well.

[Pipeline Slide]



In partnership with a company called Futures, we have created an online tool called the U.S. Manufacturing Pipeline. It will provide the information for individuals to learn about careers available in advanced manufacturing, locate the schools and programs that teach the right skills, and find available jobs at manufacturers in every region of the country.

And for manufacturers, it will be the place to find the certified, skilled workers that they need to close the skills gap and expand your operations. For example, Pipeline will allow individual companies seeking certified welders to send a message to any individuals who have a welding credential and live within, say, 25 miles of their facility, and invite them to apply for an open position. It really is a powerful tool that can change the way manufacturers find and recruit talent.

Within the next few weeks, the Department of Defense will be putting tens of thousands of Guard and Reserve personnel returning from Iraq and Afghanistan on the U.S. Manufacturing Pipeline. We will translate their MOS, help them fill any skills gaps to credentials, and connect them to manufacturers.

I'm certainly excited about this and believe we are very close to a National Talent Solution for manufacturing. Our manufacturers need the skilled workforce to compete. Our citizens need good jobs. And our country needs manufacturing for this to be another great American century.

Finally, allow me to finish today by recognizing what an incredible advocate Governor Barbour has been for the manufacturing industry. From founding the Center for

Manufacturing Excellence at the University of Mississippi, which will bring the major innovation assets of higher education to support manufacturers, to attracting the new Toyota plant, to his focus on building the state's energy sector, Governor Barbour has been instrumental in the development of Mississippi's manufacturing base.

In no small measure, that is because he understood that manufacturing's success in a state or a region is ultimately about the quality of its workforce. Five years ago, I was at the Labor Department and the Governor called me to ask how Mississippi could put together a long-term education and workforce strategy that would help to lure a big car company to Mississippi. He was cagey about what was happening, but he understood that no manufacturer is going to invest hundreds of millions of dollars unless they can be confident that the workforce will be there to enable them to succeed.

That understanding obviously helped to result in Toyota coming to Mississippi, but it also demonstrated the leadership necessary in workforce development that has now positioned our partnership to integrate manufacturing credentials in community colleges across the state. I believe this commitment to the manufacturing workforce will ensure a vibrant and successful middle class in Mississippi and provide thousands, if not tens of thousands of residents, with the means to raise a family and enjoy the American dream.

I am confident that Governor-Elect Bryant will continue in this commitment to manufacturing and the manufacturing workforce, and I look forward to working with him to achieve as much success as Mississippi has enjoyed over the previous eight years.

Thank you for the opportunity to speak today and I look forward to helping Mississippi build the best manufacturing workforce in the country. Thank you.