



Remarks by Emily Stover DeRocco  
President, The Manufacturing Institute and Sr. Vice President, NAM  
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Good morning! Thank you, Wayne, for your kind introduction and thank you, Leslie, for the invitation to join your exciting conference today. It is a privilege to be among you folks – because more than almost any other association – yours is committed to and engaged in America’s recovery – a recovery that appears to be fragile at best since we lost 263,000 more jobs in September and unemployment edged up to 9.9%.

Almost every individual here today is the crucial connection between economically distressed citizens and businesses and your university’s or college’s vast economic development resources. And, I know that while it is challenging, and often frustrating, to be the lynch-pin between the often divergent worlds of academia and business – *you can do what no others can.*

This morning I am going to address your decisive role. I will do so as an envoy from America’s manufacturers. While my thoughts have been formed in a manufacturing context, I believe they are valid in all business sectors because the problems and obstacles we face overlay the entire economy. It will be useful for me to briefly describe the realities of America’s manufacturing so you know my perspective. That should lead in turn to a focus on the explicit obstacles that hinder manufacturing specifically and business recovery overall – and the tasks that higher education via your unique position – can attend to.

Manufacturing, along with every U.S. business sector, has been bludgeoned by this recession. The loss of jobs in our industry; the perception that the bulk of U.S. companies – along with jobs – are moving offshore; and the persistent bad press have left their impressions. Americans, it appears, have a love/hate relationship with us.

A new annual index titled *Public View on Manufacturing*, developed by Deloitte and The Manufacturing Institute and released in June, found that Americans believe that manufacturing is the top industry of importance to the U.S. economy. Yet, the report also noted that Americans would not choose manufacturing for a career and would not encourage their children to seek a manufacturing career.

Further, in spite of believing that manufacturing is important, Americans:

- Generally believe that little is actually manufactured in our country;
- That China has replaced our country as the world's largest and most dominant manufacturer;
- That we have lost the export competition; and,
- That manufacturing jobs are disappearing and those jobs that remain mean low wages in dangerous, dead-end jobs.

Well, I know... that you know... that these perceptions are simply not accurate!  
Consider these FACTS.

- U.S. manufacturing is large and its output is growing - \$1.6 trillion annually. If our industry were a stand-alone country, we would be the world's 8<sup>th</sup> largest economy!
- Yes, we are still the number one manufacturing country in the world with 22% of all manufacturing - and we've held that position since 1980!
- I know that China looms large and they now hold 14% of manufacturing, but China now faces huge environmental challenges.

If we look further, we also note that:

- Manufacturing supports 18.5 million jobs here at home: 11.7 million jobs directly in the industry and 6.8 million jobs in related sectors. One in six American jobs is in manufacturing!
- Our employees earn higher salaries and benefits. In March of this year the average manufacturing employee earned \$32 per hour in wages and benefits while all other employers paid about \$29.39.
- It generates more economic activity per dollar of production: every dollar in final sales of manufactured products supports \$1.40 in output from other sectors.
- Manufacturers exported \$88 billion per month in 2008, accounting for 57 percent of total exports. How does that compare with agriculture? That sector is responsible for about 6 percent of exports.

This is a picture of a vital industry albeit evolving and adapting. It remains powerful and our economic security is dependent on it. However, let me balance this manufacturing

picture – because we know that not all is right or positive in the manufacturing sector – and in doing so, begin to draw focus on the challenges you can help us conquer.

First, each of us in the room knows that it is very costly to do business in this country - diminishing our ability to compete. That is due to “structural” costs:

- The costs of corporate taxes – second highest in the world behind Japan;
- Employee benefits – specifically high health care costs;
- Regulatory compliance including environmental, safety, and tax compliance leading to more costs in litigation - overall a \$162 billion cost annually for business; and, last,
- The high cost of energy.

These “structural costs” give our foreign competitors a 17.6% cost advantage right from the start.

Second, we struggle in a world market where U.S.-based manufacturers are challenged by markets closed to our products, unfair currency regulation, and trade laws that are often not enforced.

Third, is the wage differential. The average hourly manufacturing compensation estimated for China a couple of years ago was approximately \$1.56 per hour, about 5 percent of the average hourly compensation of our workers.<sup>i</sup>

The fourth challenge – and this is where I want to spend a little time – is the fact that the U.S. innovation advantage is slipping away. The National Association of Manufacturers, The Manufacturing Institute, and our partner the Boston Consulting Group, recently released a report, titled *The Innovation Imperative in Manufacturing; How the U.S. Can Restore Its Edge*. It speaks to the importance of innovation and how education impacts a nation’s ability to be innovative. It confirmed what many had guessed: the U.S. is no longer the world innovation leader... in fact, it is eighth among all nations.

We defined innovation as the process by which individuals, companies, regions and even entire countries remake themselves in the face of changing markets. It is the driver of productivity growth and, ultimately, of a rising standard of living.

As a country, we have sustained recent productivity growth by injecting and utilizing the computer to more effectively design, produce, and distribute. We are now near the end of that advantage as other countries follow the same strategy. So future productivity increases – and the key to competitiveness will be – again – innovation. New and

improved designs, better processes, faster design-to-market timing, and more innovative human resource management are increasingly important.

In the past companies primarily pushed innovation into new products. Today winning companies “look up and downstream for other applications, including business models, enterprise structure, value chain, processes, service, and customer experiences.” They find tangible innovations – products, knowledge, designs, etc. and they find intangible outcomes – new ways of doing old things that provide a competitive advantage. They also focus on preparing new leaders who can establish and maintain the culture and discipline within the firm that leads to innovative performance.

Our report confirmed that the innovative companies employ best practices such as defining innovation-development processes, managing finances to support innovation, organizing the company to breed new ideas and providing incentives to underpin new thinking. However, to imbue innovative thinking throughout a company, it must have workers – at all levels – that are skilled to think creatively, work within the company’s design-for-innovation, and discover applications.

We have few alternatives remaining to boost productivity having exploited the advantages we had, so innovation remains our sole avenue. Unfortunately our country is investing less and less in the systems to insure we can, and our innovation advantage is slipping away. The Brookings Institution presents disheartening evidence:

- First, other high-wage nations have ramped up their innovation investments to a very high degree.
- Second, in the last 25 years, the U.S. has gone the opposite way and its share of innovation investments is growing at alarmingly smaller rates. We have dropped in:
  - Domestic R&D spending as a percent of GDP (46 percent in 1986 to 37 percent in 2003),
  - Numbers of new U.S. patents,
  - Numbers of scientific publications,
  - Numbers of researchers,
  - Numbers of bachelor’s and new doctoral degrees in science and engineering.

The United States will not maintain the manufacturing lead if we do not develop the talent of more scientists, engineers and technical workers. Did you know that only 11

percent of all U.S. bachelor's degrees were in natural science or engineering, far below the world's average of 23 percent? According to the Organization for Economic Cooperation and Development (OECD), the United States now ranks tenth among industrialized nations in the percentage of 25-34 year olds with an associate's degree or higher, and stands as one of the only nations where older adults are more educated than younger adults.

Finally, our country's innovation policy is almost non-existent. This is certainly not the case with our competitors. China and India have declared innovation to be a strategic national priority and their governments are dedicating resources to meet their goals. China has a 15 year innovation plan for science and technology while India is increasing investments in R &D by 40% per year.

Perhaps most importantly, innovation depends on an educated workforce who in turn depends on excellence in education and training. But when we examine our schools we find them – high schools in particular – failing to engage and retain young people. A recently released report – sponsored by the America's Promise Alliance – noted that, among America's 50 largest cities, 17 reported graduating fewer than half their students. Detroit has a 75% dropout rate. Indianapolis has a 70% dropout rate.

Nationally, only 7 out of 10 young people finish high school and earn a diploma. That translates to 1.2 million young people who educationally disappear each and every year – with no work skills and few academic skills. And, while America prides itself in sending a high percentage of its high school graduates to college, less than 1 in 3 complete a degree.

So that's how I see it: slipping innovation power and an inadequate education system chipping away at the once sound platform that sustained U.S. economic dominance. Each of the issues is tightly entwined and each, independently, demands immediate attention, focused resources, and enlightened leadership. It is not a place our country wants to be... it is not a place we can remain.

That brings me to the role of our great higher education system – considered the world's best - and the roles it must play to counter the obstacles that slow innovation.

I believe fervently that universities and colleges have significant assets to help drive innovation in regional economies. They are positioned to be a key strategic partner along with community leaders, government, philanthropic organizations, business and industry, economic developers, and others. And, by the way, in referring to "higher education," we include all of post-secondary education, from community colleges to four-year colleges to research universities, both public and private.

Your potential is almost unlimited. And, because the roles you may play are multidimensional and complex, it may be useful to parse them into four levels – four discriminate areas of action:

Level one might be at the “product” level. Within this category is your ability to accelerate the transfer of technology, pursue problem-solving research, and work directly with venture capitalists and entrepreneurs. Of course within this category, we recognize you are a principal source of high value-added human capital and intellectual capital. Obviously, our engineers are your outputs!

Level two is the impact you can have on “individual company success,” providing both new ideas and solutions along with technical assistance to both startups and mature businesses. Firms are frequently the target of investment and training programs in hopes of enhancing their capabilities.

Level three is the university role in terms of impact at the *industry sector* level with support for regional cluster development, sector strategies, and innovation support for specific clusters. As you succeed at this level you often become a magnet for specialized industries within a region.

Level four reflects the universities’ impact by – almost singularly - serving as a bridge between regional and global knowledge flows because you are both *global* – embedded in global knowledge networks and held to international standards of scholarship – and *local* – closely tied to specific regions through impact on the local economy. For your local industries you are the “window to world technology.”

Whether you elect to think about your university – and your work – within these categories or others, I urge you to think holistically about the university role in our innovation economy.

In a recent Science Progress paper released by the Center for American Progress, *The Geography of Innovation*, the authors recognize that innovation is the critical component of long-term economic prosperity, driving productivity growth and (if spread across key sectors of the economy) ensuring broad-based economic growth. Sparking innovation, however, requires capital, skilled labor, scientific and technological advances, and creative collaboration between the public and private sectors. The authors conclude that innovation cannot be dictated, but it can be cultivated.

I have a strong belief that our universities, in partnership with business leaders, are perhaps best situated to cultivate innovation.

I had the opportunity to work with many of you in the course of our experimental journey in the WIRED initiative. For those of you who are not familiar with that initiative, WIRED

stands for Workforce Innovation in Regional Economic Development. Basically, from our role and responsibilities at the Department of Labor, we sought to empower regional leaders to use federal resources to build the right strategic relationships across government, business and industry, and education to cultivate an innovation ecosystem where jobs would be created and Americans were prepared to access high quality, middle class jobs.

WIRED's diverse projects have served as a testing mechanism for regionalization and, in several cases, for models of university engagement.

- Purdue University provides leadership for a 14-county Indiana WIRED project. Leveraging \$80 million in investments in the last four years, the partnership pursues four primary transformational strategies (1) Creating Globally Competitive Industries, (2) Building an Entrepreneurship Super-Region, (3) Developing a Workforce with 21<sup>st</sup> Century Skills, and (4) Weaving supportive Civic Networks.
- The University of Maine's North Star Alliance is creating a new regional economy by integrating their world-renowned composite materials research center with the strength of a centuries-old boat building industry. Manufacturing the strongest and lightest boats is reversing a catastrophic economic downturn in the region.
- In the Metro Denver Regional WIRED Partnership, the University of Colorado-Denver joins multiple regional partners to respond to the "Colorado Paradox" of a booming economy propelled by growing technology sectors confronting a low high school graduation rate and leaking talent development pipeline.
- The University of Minnesota and the Minnesota Triangle focus on micro-competitiveness across diverse clusters including renewable energy, bioscience, agriculture, and related manufacturing sectors. Serving 36 rural counties, the partnership is facilitating the transition from a traditional commodities base to a value-added agriculture economy.

Beyond WIRED are other model initiatives: the University of Georgia's Archway Project, Virginia Tech's Institute for Advanced Learning and Research, Michigan State's "from birth to work." The universities that engaged in many of these initiatives have spent the last 12-18 months exploring the role of colleges and universities in this Transformative Regional Engagement strategy, coordinated efforts to transform the prosperity of a region through education, economic, workforce, and community development. We recognize that many universities, particularly land grant institutions, are already deeply engaged, from small, local projects through significant, systemic and regional initiatives.

We believe that more can be done: more to build the innovation infrastructure for our economic future. And certainly our national economic turmoil is a call to action for all of us. In the 21<sup>st</sup> century innovation economy, businesses, regions, and the nation compete less on costs and more on assets. Our universities have or produce many of those assets.

These university leaders who are engaged in Transformative Regional Engagement are exploring the challenges of taking on a larger role in economic development. As you can well imagine, this raises many challenges related to mission definition and the will and capacity to do more.

As I look at your membership and your strong capacity to put university assets to extraordinary use in regional economies in your geographies, I want you engaged in these policy and strategy discussions, to present a united university vision in Washington.

Your importance in leading innovation and in bringing global competitive advantages to regional economies and the country are obvious. In the knowledge economy, the increased value of “brain power” means that your products command a premium in the marketplace and draw new attention and resources both to your institution and to the regions with which you engage. Today universities and colleges are at a tipping point. They can institutionally accept and respond to the realities and challenges threatening America and be a wellspring of solutions or... they can be 20<sup>th</sup> century relics doing “business as usual.” I know for each of you, this is a simple choice.

Thank you!

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