

U.S. Manufacturing Competitiveness Initiative

# Ignite 1.0

Voice of American  
CEOs on Manufacturing  
Competitiveness

January 2011



**Compete.**

Council on  
Competitiveness

## **Ignite 1.0: Voice of American CEOs on Manufacturing Competitiveness**

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The **U.S. MANUFACTURING COMPETITIVENESS INITIATIVE (USMCI)** is led by a CEO-level leadership council and steering committee, comprised of chief executives from industry, academia, organized labor and national laboratories.

An equally diverse and expert advisory committee is helping to shape the substantive aspects of the initiative, as well as providing ongoing counsel and support to the steering committee and Council staff.

Together, these individuals will frame the critical questions, provide the strategic direction, and develop a comprehensive set of actions to ensure a vibrant manufacturing base for America's future.

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## From Our Leadership

The Council launched its U.S. Manufacturing Competitiveness Initiative (USMCI) in June 2010 to tackle the challenges facing manufacturing and drive the dialogue, policies, and programs necessary to ensure the long-term health of American manufacturing. Our vision is a reinvigorated, vibrant, diversified, and technologically advanced manufacturing sector that produces American jobs, economic growth, prosperity, energy sustainability, and an improved ability to meet national security needs.

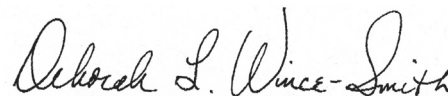
This report, *Ignite 1.0*, provides the first set of recommendations informed by interviews with manufacturing CEOs and other senior executives. In June, we will release *Ignite 2.0*, which will include insights and recommendations from university leaders, and in September, we will release *Ignite 3.0*, which will provide thoughts and recommendations from labor leaders. Beyond these three reports, there is much more to be done. America needs a fresh and proactive strategy with a well articulated and optimistic message.

Using the three sets of interviews, research, analysis, and a series of strategic dialogues with the USMCI Steering Committee, Executive Advisory Committee, and federal government partners, the Council will develop and present a comprehensive and in-depth 3rd Millennium National Manufacturing Strategy. We will explore the entire manufacturing ecosystem and full product life-cycles, ranging from design and engineering to production, remanufacturing, and disposal. The strategy will be presented to private sector leaders, the administration, Congress, governors, and other key stakeholders at a national manufacturing summit planned for December 2011 in Washington, D.C. Importantly, it will provide the Council with a framework for developing ongoing implementation and monitoring efforts in 2012 and beyond.

Modern manufacturing is complex, involving socioeconomic and technical issues which require deep collaboration between government, industry, academia, and labor leaders to effect real change. We need to identify, understand, and vigorously support necessary and sometimes radical changes and new policies if the United States is



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Samuel R. Allen, Chairman, Council on Competitiveness, Chairman and CEO, Deere & Company, speaks at the launch of the Council's U.S. Manufacturing Competitiveness Initiative (USMCI) at the National Press Club June 23, 2010.

**From left:** Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Samuel R. Allen, Chairman, Council on Competitiveness, Chairman and CEO, Deere & Company; James H. Quigley, Chief Executive Officer, Deloitte Touche Tohmatsu; Michael R. Splinter, Chairman, President and CEO, Applied Materials, Inc.; and Patrick D. Gallagher, Director, National Institute of Standards and Technology, U.S. Department of Commerce.

to regain and retain its position of global leadership. If the United States loses the know-how to manufacture things, then the know-how to develop and design things will also be lost, leading to an inability to innovate, attract investments, improve the standard of living, and protect national interests.

Lastly and most importantly, we are especially grateful to all of the CEOs for their willingness to share their valuable thoughts and insights with the Council. We also want to thank our colleagues at Deloitte for all their support in conducting the interviews and preparing this report.

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**William P. Hite**  
General President  
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Pipefitters

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# Summary of Recommendations

## Tax Policy

1. Institute overall tax reform and provide long-term clarity and stability in corporate tax policies.
2. Enhance and make R&D tax incentives permanent.
3. Diminish the cost of repatriating earnings.
4. Develop more globally competitive corporate tax rates.

## Energy Policy

1. Outline a comprehensive energy policy that encourages reinvestment in current infrastructures, pursues energy efficiency and conservation, and balances investment across a diverse portfolio of all fuel sources—including solar, wind, and nuclear—while tapping critical U.S. assets in coal, natural gas, and offshore oil.
2. Immediately begin planning to increase the use of nuclear power.
3. Increase collaboration with businesses when drafting new regulations to ensure that they are cost-effective, attainable, and employ available technologies.
4. Restore and modernize the U.S. electric grid in order to grow capacity, improve reliability, and integrate alternative energy sources as they are developed.
5. Incentivize the use of cleaner and more abundant fuels like natural gas to facilitate the transition away from oil and coal.

## Trade Policy

1. Develop a new trade promotion and fast-track authority.
2. Create a more comprehensive and competitive export trade control process.
3. Ensure U.S. rights under existing trade agreements are enforced, and ensure compliance with WTO rules and regulations internationally.
4. Create pro-business relationships with all trading partners, especially emerging market countries, and aggressively pursue closure of a commercially meaningful WTO Doha Agenda.

## Regulatory and Legal Environment

1. Collaborate with government and business leaders to create policies enabling appropriate evaluation to be conducted through a lens of global competitiveness in place of a U.S.-centric view.
2. Develop a benchmarking process to analyze the impact of regulations from a holistic global competitiveness perspective.
3. Diminish the cost and complexity of regulatory compliance.

## Scientific, Technological, and Inspirational Goals

1. Establish a consortium of business, university, labor, and public sector leaders to develop daring long-term goals with a 15 to 20 year development horizon. The consortium will work collaboratively to craft policy, investment, and development programs—as well as educational and other physical, technological, and intellectual infrastructures—that support progress toward those goals.
2. Strengthen intellectual property protection, particularly in emerging markets, and ensure investments in science, technology, and innovation provide maximum long-term return to the United States.

## Infrastructure Investments

1. Improve ports, railroads, roads, nuclear facilities, the electric grid, and IT infrastructures. Priority should be given to projects that improve export capabilities and efficient movement of goods into, out of, and through the United States.
2. Increase incentives for infrastructure projects within the private sector and encourage more private-public partnerships.

## Access to Talent

1. Reform visa and green card processes that create backlogs, which block access to talent.
2. Benchmark visa best practices from other countries that are successfully attracting and retaining top science, technology, engineering, and mathematics (STEM) talent.
3. Create opportunities for scientists and engineers born outside the United States to become an integral part of the U.S. competitiveness engine, instead of focusing primarily on border protection.

## U.S. Education in Science and Technology

1. Focus educational curricula on developing STEM skills. Develop flexible education tracks that foster STEM literacy through community colleges, vocational trade schools, work-training programs, et cetera.
2. Advance performance-based legislation and incentives such as the America COMPETES Act, the Elementary and Secondary Education Act, Investing in Innovation, and Race to the Top and Teacher Incentive funds.
3. Develop federally funded programs that promote and market manufacturing as a high-value and vital industry with rewarding long-term career opportunities for high school and college students in the United States.
4. Subsidize state universities' efforts to attract higher caliber students to STEM programs and increase the number of graduates in STEM disciplines.

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*Photo courtesy of Lockheed Martin Corporation.*

# U.S. Manufacturing Competitiveness

From the conclusion of World War II to nearly the end of the 20th century, the United States was recognized as the world's leading manufacturing economy by most any metric: productivity, innovation, scale and quality of products, or workforce quality. The country's strong industrial base and highly talented workforce pioneered innovations and technological advancements that elevated the standard of living for its citizens and its rapidly growing middle class to levels that were the envy of nations worldwide.

A strong industrial complex retooled for post-WWII consumer demands and a favorable export environment, driven by post-war rebuilding efforts abroad, helped to establish the United States as the leading global manufacturer. As a result, the competitiveness of U.S. manufacturers and the prosperity of the American people rose to an all-time high.

As the 21<sup>st</sup> century dawned and developing nations began their drives to improve the prosperity of rapidly growing middle classes, they focused on developing manufacturing-based economies that would produce high-value jobs and leverage the economic multiplier effect that a robust industrial base creates. This, in turn, led to the creation of strong supporting infrastructures, education programs, and pro-business public policies that attracted foreign direct investment (FDI). Taken together, these factors gave rise to strong domestic consumer markets abroad and increasingly stiff competition for U.S. manufacturing firms.

Consequently, the U.S. manufacturing sector today faces unprecedented challenges. According to the *2010 Global Manufacturing Competitiveness Index*<sup>1</sup>, which is based on input from more than 400 C-suite manufacturing executives around the world, the United States ranks fourth in global manufacturing competitiveness behind China, India, and South Korea. Moreover, America is expected to fall to fifth by 2015, according to these executives. As a result, the United States has been challenged to create high-value, manufacturing-driven job growth, which in turn, has become a tremendous challenge for both policymakers and business leaders keen on maintaining the prosperity of the American middle class.

1 *2010 Global Manufacturing Competitiveness Index*. [http://www.deloitte.com/assets/Dcom-Global/Local%20Assets/Documents/Manufacturing/DTT\\_Global\\_Manufacturing\\_Competitiveness\\_Index\\_6\\_23\\_2010.pdf](http://www.deloitte.com/assets/Dcom-Global/Local%20Assets/Documents/Manufacturing/DTT_Global_Manufacturing_Competitiveness_Index_6_23_2010.pdf).

Executives participating in the *2010 Global Manufacturing Competitiveness Index*<sup>2</sup> research effort identified 10 broad areas that they believed determine the manufacturing competitiveness of a country. Topping the list of competitiveness drivers is talent-driven innovation, followed closely by the cost of labor and materials, energy costs and policies, economic development, trade, central bank and finance policies, and the quality of the infrastructure. While market forces have a significant impact on the competitiveness of a country, executives stressed that government policies critically affect manufacturing competitiveness and a country's ability to compete in international markets.

In the view of survey respondents, today's increasingly borderless global economy and the emergence of new industrial powers represent both prospective threats to America's long-term economic health, and opportunities to leverage new technologies to revive the industrial base, improve competitiveness, create high-value jobs, and increase American prosperity. To succeed, significant and complex challenges must be tackled, and the Council on Competitiveness has undertaken a significant effort to address these issues and to improve America's long-term competitiveness.

To learn more about the role government policy plays in national competitiveness, the Council sought short-term and long-term policy recommendations from CEOs and other senior manufacturing executives that could improve manufacturing competitiveness and drive high-value job creation, innovation, and sustainable prosperity in the United States.

Business executives participating in this report were asked to recommend what federal and state policymakers should do to address the following 10 areas:

1. Human Capital Development Policies
2. Infrastructure Investment and Development Policies
3. Economic Development and Trade Policies
4. Central Bank and Finance Policies
5. Corporate and Individual Tax Policies
6. Legal and Regulatory System and Policies
7. Science, Technology and Innovation Policies and Investments
8. Energy Policies and Investments
9. Healthcare Policies and Systems
10. Other

<sup>2</sup> *ibid.*

## Approach and Methodology

Between September 2010 and January 2011, on behalf of the Council, senior leaders at Deloitte<sup>3</sup> held discussions with approximately three dozen senior executives. These executives represented some of the world's largest manufacturing organizations headquartered in the United States. Small and medium-sized manufacturers, a key demographic representing the bulk of all U.S. manufacturing employment, were also represented in the interview process. The perspectives gathered encompassed diverse industry sectors and included producers of consumer, automotive, aerospace and defense, technology, and life sciences products, and included both public and private enterprises.

Participating companies included Applied Materials, Inc., Deere & Company, The Dow Chemical Company, DuPont, PepsiCo Inc., Bayer AG, Procter & Gamble, Ford Motor Company, Chrysler Group LLC, Lockheed Martin Corporation, ACE Clearwater Enterprises, General Electric Company, and many more. These discussions were done on an individual basis, typically occurring in the executive's office. Specifically, the hour-long discussions sought the executive's perspectives on:

- The U.S. and global economy, including expected growth, the shape of the recovery, and vulnerabilities relative to short-term and long-term economic prospects.
- Short-term and long-term recommendations on what federal and state policymakers should do to improve U.S. manufacturing competitiveness, reinvigorate the industrial base, create jobs, and drive a sustainable economic recovery.
- Important areas individual companies must address to compete effectively over the next five years with their largest global competitors.

<sup>3</sup> As used in this document, "Deloitte" means Deloitte & Touche LLP, Deloitte Consulting LLP, Deloitte Tax LLP, and Deloitte Financial Advisory Services LLP, which are separate subsidiaries of Deloitte LLP. Please see <http://www.deloitte.com/us/about> for a detailed description of the legal structure of Deloitte LLP and its subsidiaries.

# Passion for the United States and Manufacturing

Throughout the interview process, a palpable passion for manufacturing competitiveness was conveyed by respondents that is difficult to capture in this summary. Though the thoughts and opinions of the participating CEOs were diverse, the depth of passion for a globally competitive United States and the importance of a robust and innovative manufacturing base to America's economic future emerged as common themes. Participants made it exceedingly clear that these factors were inextricably linked to America's short-term and long-term prospects for job creation, security, and prosperity. For some, these sentiments were expressed through anger and frustration over what one executive called a "steady and unnecessary decline in the U.S. industrial base over a long period of time as the result of self-inflicted policy wounds, as opposed to the rise of any new super-power manufacturing nations."

Most opinions, however, conveyed an unwavering belief that the U.S. had the resources, the capabilities, and the will to be the most competitive manufacturing nation in the world in the 21<sup>st</sup> century, given a new approach to setting public policy. Most believed this new path needed to focus on national competitiveness and the challenges facing manufacturers of all sizes, in order to remain one step ahead of global competition.

It is noteworthy that the tone of the responses grew more cautiously optimistic following the November mid-term elections. And as the interviews wrapped up in December 2010 and January 2011, executives openly looked forward to the opportunity for dialogue, the prospects for policy and regulatory balance, and a resurgence of U.S. manufacturing competitiveness.

## Consequences of Uncertainty

An overarching concern that was consistently and nearly unanimously expressed by executives was policy, legislative, and regulatory uncertainty. Executives suggested that this uncertainty directly impacted both short-term and long-term decision making. Many participants emphasized that as business leaders, they routinely develop strategic business plans and make supporting investments with 10 to 15-plus year horizons, yet are faced with a reality in which policies do not provide enough clarity or stability to make these decisions without a significant sense of uncertainty. In particular, many suggested that this uncertainty overshadowed their investment processes which focused on critical costs and competitiveness variables.

Clarity and permanence of R&D tax credits, competitive tax rates, ratification of free trade agreements, tort reform, health care policy, financial reforms, labor policy, innovation policy, energy policy, and carbon regulation policy were all examples cited of areas where competitive policies developed and enacted with clarity and maintained with stability would provide tremendous opportunities for American manufacturers. Many suggested that resolving these policy questions would afford businesses the opportunity to make long-term investments in the labor force, improve manufacturing processes, develop new products, and implement cutting-edge technology with greater certainty. In doing so, they could advance U.S. manufacturing competitiveness and stimulate domestic job growth. Executives applauded recent agreements in the areas of tax policy and global trade, yet felt uncertainty remained high, and that many opportunities still exist for business and policymakers to collaborate on creating lasting competitiveness solutions and limiting uncertainty.

## 21<sup>st</sup> Century Principles for a Competitive American Industrial Base

The executives interviewed represent diverse backgrounds, experiences, and countries of origin. Some approached the discussion as a deep and specific point-by-point policy dialogue, while others spoke in broad terms, stressing key concepts and the most important policy actions necessary. All had given manufacturing competitiveness considerable thought, and it was clear most gave public policy issues meaningful attention on a regular basis.

Several executives also shared insightful intellectual frameworks in which to discuss manufacturing competitiveness. The most compelling of these were offered as core principles for the creation of a competitive 21<sup>st</sup> century U.S. manufacturing complex.

These are principles that many CEOs believe need to be broadly understood and embraced by today's policymakers in order to better develop and implement the recommendations identified through these efforts. The key principles are as follows:

1. Policymakers should strive considerably less to create a single, specific, concrete industrial policy for the future of U.S. manufacturing, and instead, seek to develop an achievable set of goals that ensures the United States is the most vibrant and attractive place to do business, the greatest place in the world to innovate, make things, prosper, and grow.
2. Creative destruction of businesses and jobs is at the very core of competition, and as such, policymakers should stimulate new business creation, new job creation, and foster the most dynamic environment possible, in lieu of saving jobs or industries.
3. Productivity is a good thing. Higher productivity will always be necessary to stay competitive on the global stage. But productivity will result in greater efficiency, which means less labor will be required to perform a given task. This creates a healthy economy as long as businesses are innovating, and public policy is stimulating new business creation, new job creation, and attracting investment to drive the creation of new jobs.

4. Global economics is not a zero-sum game. A job created somewhere else in the world is not the loss of a job in the United States. America's global trading partners must grow their economies in order for the United States to grow its own economy. Accordingly, U.S. businesses must grow both domestically and abroad.
5. Freedom of movement is an essential driver of national competitiveness today. Movement of capital, laborers, scientists, engineers, and ideas is critical for a competitive and dynamic nation.
6. Manufacturing is much broader, more diverse, and has a higher multiplier on the economy than at any previous time in history. Manufacturing includes research, development, production, sales, distribution, logistics, customer service, marketing, and support. It extends from the making of physical products to the production of software, an increasingly important component integrated across the manufacturing spectrum into growing numbers of physical products. Properly understanding the breadth of manufacturing today, and its multiplier effect on the domestic economy, is essential to enacting public policy that ensures that the United States will be competitive in the long term.

## Key Insights and Recommendations

The following report outlines key short-term and long-term measures executives identified as critical to revitalizing and sustaining the U.S. industrial base, a key driver of prosperity and economic strength. Executives consistently noted that success hinged on the ability of the public and private sectors to work together and have open, honest, ongoing, and productive dialogues focused on creating an environment in the United States that promotes competitive manufacturing—an environment that, among other things, creates and maintains a competitive cost structure, balances regulatory policy, spurs investment, supports globalization, and attracts, develops, and retains the very best talent required at all levels of the manufacturing process.

Executives also consistently noted that, while the results of certain investments in areas like education would require more time to mature, action on these fronts should begin immediately. Other areas of focus, including tax reform and energy policy, would have an immediate, positive, and meaningful impact on America's ability to compete globally, provided that proposed policy changes balance public and private sector needs, and are enacted with a long-term competitiveness outlook in mind.



*The F-35 Lightning II, also known as the Joint Strike Fighter (JSF), integrates advanced very low observable stealth into a supersonic, highly agile 5th generation fighter. The capabilities built into the F-35 Lightning II provide the pilot with unprecedented situational awareness and unmatched lethality and survivability.*

*The world's most experienced aerospace industry leaders (Lockheed Martin, Northrop Grumman, BAE Systems and the Fighter Engine Team—Pratt & Whitney and GE Rolls-Royce) combine sophisticated manufacturing, engineering and technological capabilities to develop the F-35 Lightning II. This, along with global partnerships, has been an integral part of the JSF Program. Setting the stage for reliability and maintainability, the F-35's built-in sustainment establishes new levels of operational readiness and helps meet the needs across the spectrum of military operations.*

*With its host of next-generation technologies and unprecedented capabilities, the F-35 is the world's most advanced multirole fighter.*

*Photo courtesy of Lockheed Martin Corporation.*

# Recommendations

A majority of the executives noted that changes to the following areas would offer immediate, positive, and meaningful improvements to the ability of U.S. businesses to compete effectively in global markets. There was also a general recognition that many of these recommendations should be implemented soon in order to realize long-term benefits and competitiveness advantages.

## **Tax Policy and Deficit Reduction**

Many of those interviewed indicated that if the overall corporate tax rate of the United States were closer to its largest trading partners, American companies would be more competitive. High corporate taxes result in a reduced ability to invest, and global competitors with lower rates are able to invest more. A benchmarking study of other global manufacturing powers would be helpful in order to understand differences between corporate tax structures, and by extension, America's competitiveness.

Improving U.S. companies' ability to repatriate cash from abroad was often cited as another means to boost the domestic economy and U.S. competitiveness. Many executives believed that, at a minimum, U.S. policy should designate a brief period in which cash could be repatriated at a lower tax rate. When similar policy measures were enacted several years ago, there was a dramatic influx of cash into the United States, which was then funneled back into the economy.

Many participants felt that a territorial tax rate policy should be developed. This could allow American corporations to increase investment in the United States and shrink the current federal deficit.

The federal deficit was repeatedly cited as a major concern for the future, but executives also felt that immediate action was needed to reduce the deficit, and very importantly, the borrowing costs for the country. Moreover, executives argued that excessive federal debt would be an impediment to growth, and diminish current and future manufacturing product and process innovations and future productivity gains.

*Applied Materials, Inc. is the global leader in providing innovative equipment, services and software to enable the manufacture of advanced semiconductor, flat panel display and solar photovoltaic products.*

*Photos courtesy of Applied Materials, Inc.*

Finally, a significant majority felt that the time was right to begin a major tax policy overhaul consistent with ideas advanced by the President's Bipartisan Deficit Reduction Committee. Interviewees argued that this would have a dramatic, positive, and long-lasting impact on America's competitiveness across all industries.

In particular, executives recommended the following actions be considered:

1. Institute widespread tax reform and provide long-term clarity and stability on overall corporate tax policies to promote investment in the United States and strengthen U.S. competitiveness.
2. Enhance and make permanent R&D tax incentives. The United States' ability to innovate and develop technological advances is key to its competitive advantage in the future. Therefore, investment in long-term basic and advanced research is crucial to stay ahead.
3. Decrease the cost of repatriating earnings—either by creating a territorial tax rate policy or by minimizing the payback difference between foreign and U.S. tax rates. The United States is the only G8 member that does not employ a territorial tax rate policy—a taxation policy where governments tax only the income earned inside their borders. U.S. headquartered companies need to have the same competitive advantages that America's major trading partners provide for companies headquartered within their borders.
4. Develop more globally competitive corporate tax rates. Executives applauded the recent continuation of tax adjustments, but, as previously noted, felt that long-term fiscal consistency would be even more beneficial in reducing uncertainty and increasing investment.

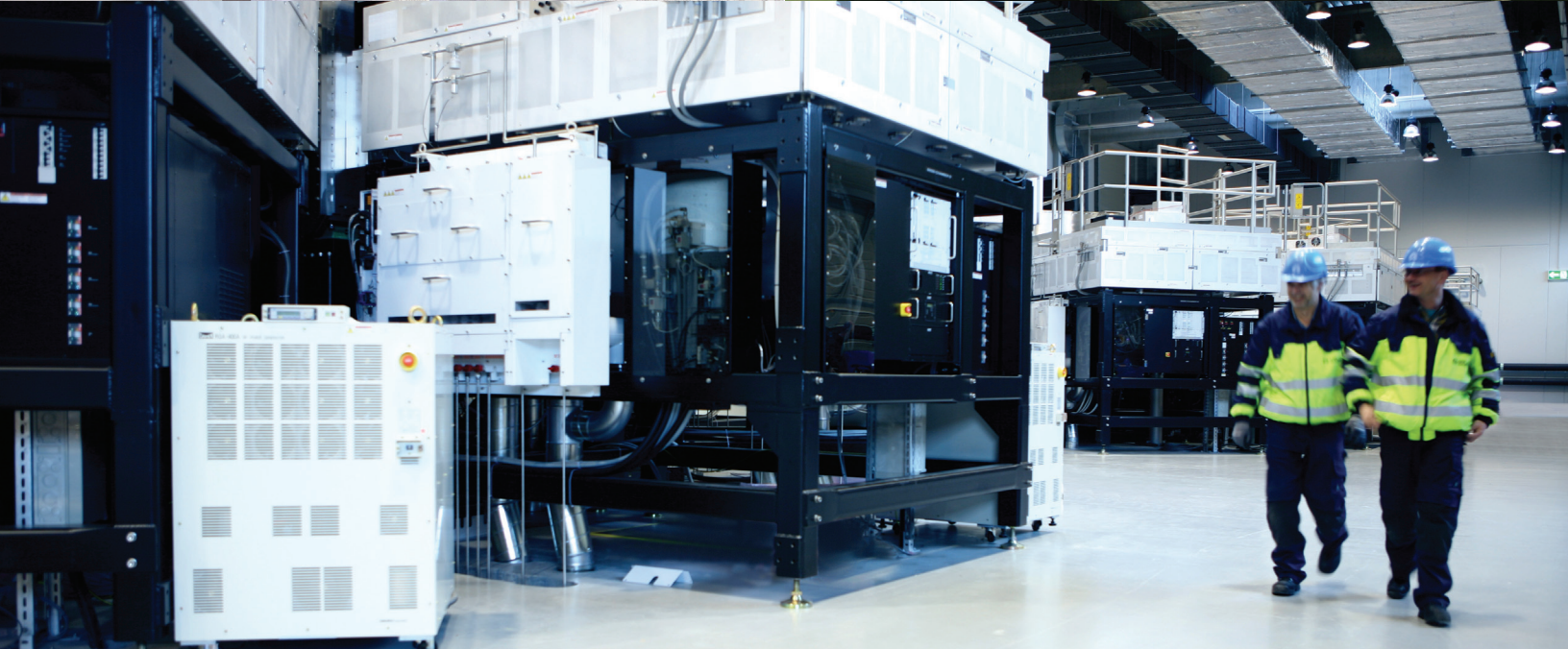
## Energy Policy

Many discussions strongly suggested that a clear energy policy in the United States is required to address environmental and sustainability concerns, reduce uncertainty within the business community, and make U.S. businesses more competitive in global markets. Executives noted that a long-term, realistic, and competitive energy policy is critical to ensure a competitive business cost structure and to further ensure an uninterrupted supply of energy. They believe such a policy would spur innovation on a massive scale and encourage prudent capital investments in U.S. business operations.

According to those interviewed, creating an energy policy that properly incentivizes businesses and sends clear market signals could drive investments that ease dependence on fossil fuels in favor of clean energy sources and mitigate the cost of energy when domestic resources become scarce. Most executives favor meaningful environmental protection, applied equally on a global basis. They emphasized that, given the significant differences in viewpoints worldwide, it is important to focus on an international treaty approach—one that would include input from both developed and emerging markets, crafted to reduce dependence on fossil fuels in an equitable manner. Most agreed carbon regulation is necessary to incentivize change, though no consensus existed on the particulars of the regulatory process.

Despite varying points of view, executives consistently recommended the following actions:

1. Create a comprehensive energy policy that encourages reinvestment in America's current infrastructure, pursues energy efficiency and conservation, and balances investment across a diverse portfolio of alternative fuels sources, including solar, wind, and nuclear. This policy should also tap existing U.S. energy assets like coal, natural gas, and offshore oil.





*GE is an advanced technology, services and finance company taking on the world's toughest challenges. Dedicated to innovation in energy, health, transportation and infrastructure, GE operations in more than 100 countries and employs about 300,000 people worldwide.*

*Photos courtesy of General Electric Company.*

2. Immediately begin planning to increase use of nuclear power, it being an available and scalable low-carbon technology.
3. Increase government collaboration with businesses when drafting new regulations to ensure they are cost-effective and attainable. Regulations should also employ available technologies in an effort to increase efficiency and advance competitiveness while complying with new standards.
4. Restore and modernize the U.S. electric grid in order to grow capacity, improve reliability, and integrate alternative energy sources as they develop.
5. Incentivize the use of cleaner and abundant fuels like natural gas to facilitate the transition away from the use of oil and coal.

## Trade Policy

Leveling the playing field with respect to international trade was critically important to the executives interviewed, particularly because consumer demand continues to explode in emerging markets. Today, approximately 95 percent of consumers are outside of the United States.<sup>4</sup> However, according to executives, the issue of trade encompasses more than fair and equitable access to global markets. U.S.-based manufacturing companies also rely on these markets for access to critical raw materials, innovative technologies, talent and human resources, business partners to help penetrate new markets, and the research, ideas, and capital necessary to sustain growth. Executives consistently noted that access to foreign markets, leading technologies, and the ability to attract highly-educated professionals are critical factors needed to spur domestic economic growth and job creation.

Executives applauded recent free trade negotiations with South Korea, an agreement which may boost U.S. exports by \$10 billion to \$11 billion dollars and U.S. GDP by up to \$12 billion, if ratified.<sup>5</sup> They also indicated that much work remains to be done. Some executives suggested that many free trade agreements are unfair to critical industry sectors in the United States, with phase-in components that are one-sided and detrimental to U.S. interests. Equally troubling is the lack of protection for intellectual property rights in many agreements; a challenge for many U.S. companies operating overseas.

Participants also noted that the concept of “fair and equitable” must apply to other aspects of the business environment in other countries. In particular, labor laws and regulations concerning child labor, working conditions, human rights, and environmental and safety policies must be improved. Narrowly defined trade policies alone will not be sufficient to competitively or fairly position U.S. businesses in the international marketplace.

According to many of the participating executives, strong governmental advocacy for free and equitable trade, especially in emerging markets, in conjunction with advocacy against protectionist policies, would be valuable to U.S. businesses. Many expressed concern over America’s perceived migration toward protectionism through policy, legislation, and regulation. Executives also noted that their international business operations create a positive ripple effect in domestic business, and are often a significant source of profit and job growth in the United States. Senior leaders at large multinational and smaller domestic firms alike indicated that their competitors were global.

4 White House Releases Report to the President on the National Export Initiative. <http://www.whitehouse.gov/the-press-office/2010/09/16/white-house-releases-report-president-national-export-initiative>.

5 Benefits of the FTA. <http://www.uskoreafta.org/about/benefits-fta>.

Most executives also stressed that disadvantaging large multinationals through ill-advised protectionist policies also disadvantaged small and medium-sized domestic manufacturers, as many of these firms are critical partners in large and complex global supply chains. According to executives, in the global market of tomorrow, U.S. jobs will be increasingly dependent on international business, meaning competition will no longer be between large U.S. multinationals and small and medium-sized U.S. domestic manufacturers, but between large and small global competitors and their supply chain partners. This is a new environment the participants hoped lawmakers would understand.

In terms of export trade control, some felt the United States is protecting technology that is readily available elsewhere. Some hoped policy leaders could be more nimble in developing capabilities that protect U.S. technology and intellectual property in rapidly evolving global supply chains and markets. Protected technology should be reassessed in a timely manner to allow U.S. companies to compete globally.

To level the playing field, executives recommended the following actions:

1. Develop a new trade promotion and fast-track authority to quickly establish free trade agreements that are fair and equitable. It must balance access to global consumers, spur investment, and keep pace with global competitors' aggressive negotiating strategies to open new markets for companies and workers.
2. Create a more comprehensive and competitive export trade control process to ensure U.S. companies are not exposed to overly burdensome protectionism of goods and technology.
3. Ensure U.S. rights under existing trade agreements are enforced, while monitoring compliance with WTO rules and regulations, minimizing unacceptable obstructions to trade, currency manipulation, restricted access to markets, and violations of intellectual property rights.

4. Continue efforts to create pro-business relationships with all trading partners, especially in emerging markets, so that conducting business in, and exporting to, these emerging markets is less complex and more equitable for all parties. The United States must also aggressively pursue closure of a commercially meaningful WTO Doha Round.

## Regulatory and Legal Environment

Executives felt that U.S. companies would benefit from a new approach to the regulatory process. Specifically, they suggested that regulators adopt metrics for assessing proposals and actions focused through a global competitiveness lens, with perspective developed through consistent and ongoing dialogue with business leaders. Participants suggested that this methodology is far more likely to yield effective regulations that minimize regulatory burdens, promote competitiveness, and can be implemented quickly. Executives of small and mid-sized companies noted that their companies feel the full impact of domestic regulatory policy and typically do not have the option to set up operations in other areas of the globe. Therefore, the overall environment for small and medium-sized businesses is becoming more challenging vis-à-vis their global competitors, as these companies do not have the financial resources to address growing compliance costs and complexities.

Many executives noted that increasingly complex regulatory and legal environments pose significant challenges for their companies. For example, overlapping federal, state, and local regulations are difficult to understand and navigate, and can be very challenging for the typical manufacturing organization. Patent processes, FDA guidelines, EPA guidelines and mandates, and other regulations were specifically noted as areas of concern. They identified these regulations as barriers to developing new products and innovation in the production process.



The Allen-Bradley CompactLogix from Rockwell Automation controls up to eight axes of motion and is ideal for OEMs and end users with small- to mid-range applications. It is an extension of the award-winning Logix Control Platform, which brings plant-wide optimization to every type of manufacturer, from automotive, consumer goods, food and beverage to heavy industries such as mining, petrochemical, and energy production.

Rockwell Automation (NYSE:ROK) is the world's largest company dedicated to industrial automation and information products, services, and solutions. The company mission is to increase the standard of living for everyone by making customers more productive and the world more sustainable. Headquartered in Milwaukee, Wis., Rockwell Automation is a \$5 billion company serving customers in more than 80 countries.

Photo courtesy of Rockwell Automation.

*The transformed Michigan Assembly Plant (MAP) in Wayne, Mich., which will produce the fuel-efficient new global Ford Focus for North American customers, features flexible manufacturing, environmentally friendly practices and a highly trained work force.*

*A \$550 million investment transformed the plant, creating new benchmarks for flexible manufacturing. Multiple models to run down the same production line, making Michigan Assembly the world's first plant to build gasoline-powered, battery electric, hybrid electric and plug-in hybrid electric vehicles on the same line.*

*MAP also features one of Michigan's largest solar-powered generation systems and electric vehicle charging stations.*

*Photo courtesy of Ford Motor Company.*



Many executives felt a more balanced system would dramatically increase the potential for innovation. While executives cited the significant costs of defending against a steady stream of lawsuits, several respondents went deeper, pointing to other hidden costs. Some of these costs include the challenge of attracting FDI to the United States, where the threat of lawsuits make investments riskier and exceptional verdicts could destroy a company's balance sheet.

Finally, many executives indicated that the complexity of facility permitting greatly slows a company's ability to invest in new plants, new research and development facilities, and new operations of all types. Limited ability to invest in these areas retards a company's ability to rapidly respond to global competitors, thereby slowing or inhibiting U.S. job growth.

To address these concerns, executives recommended the following actions:

1. Develop policies collaboratively with government and business leaders so appropriate evaluation can be conducted through a lens of global competitiveness instead of a U.S.-centric perspective. This will promote regulation with fewer unintended consequences, while encouraging creative and efficient approaches. Regulatory changes must be consistently supported to afford businesses an opportunity to make strategically sound investments.
2. Develop a benchmarking process that appreciates the consequences of regulation from a global perspective. Policymakers should analyze proposed regulation through the lens of global standards to avoid impeding U.S. growth.
3. Cut the cost and complexity of compliance with regulations; where different agencies have overlapping jurisdiction, collaborative efforts to harmonize and simplify rules and processes will greatly reduce companies' expenses while meeting regulatory standards.

## Scientific, Technological, and Inspirational Goals

Executives frequently suggested that federally supported long-term goals have been catalysts for innovation and advances in science, technology, and the competitiveness of the United States. From breaking the sound barrier, to landing a man on the moon, to nuclear energy—advances have been achieved through cutting-edge research and development, often spurred by bold goals set by the U.S. government. Moreover, the federal government has supported these goals with assertive science and technology policies and the requisite long-term funding to achieve success. Many executives suggested that the U.S. government should once again take a strong leadership role and establish significant scientific goals enabled by policy, which could drive meaningful advances and innovation. They felt that doing so would benefit universities and businesses of all sizes that play a role in the research process. They also felt these investments would rally the U.S. competitive spirit, inspiring additional investment in innovation, promoting the cultivation of highly-skilled scientists, engineers, and workers, and the manufacturing capabilities required to advance U.S. competitiveness for decades to come.

To reach this objective, executives recommended:

1. Policymakers should establish a consortium of business, university, labor, and public sector leaders to create bold long-term goals with a 15 to 20 year development horizon, and then work collaboratively to craft policy, investment, and development programs—as well as educational, physical, technology, and intellectual infrastructures—that support progress toward those goals.
2. Strengthen intellectual property protections, particularly in emerging markets, and ensure investment from the U.S. government and private sector in science, technology, and innovation provide maximum long-term return to the United States.

## Infrastructure Investments

Executives repeatedly indicated that infrastructure investments are key to U.S. competitiveness and job creation. This includes investment in railroads, roads, and waterway infrastructures to offer flexibility in transportation solutions, and to optimize U.S. transportation and shipping networks. Additionally, respondents identified the air traffic infrastructure as a key concern, along with the need to rapidly modernize U.S. air traffic system technology. Many believed that undertaking these efforts would improve export channels for U.S. manufacturers, make the United States an increasingly attractive location for FDI, and result in growing employment opportunities; a development which would drive consumer spending, spur the economy, and grow GDP. According to those interviewed, the federal government needs to demonstrate greater leadership in building a 21<sup>st</sup> century world class manufacturing and business infrastructure to reinvigorate the domestic economy.

Executives recommended the following actions to address America's infrastructure challenges:

1. Focus on improving ports, railroads, roads, nuclear facilities, the electric grid, and IT infrastructures to ensure the United States remains an attractive place to live and do business. Priority should be given to projects that improve export capabilities and the efficient movement of goods into, out of, and through the United States.
2. Similar to the Federal-Aid Highway Act of 1956, recognized by many as the largest public works project in American history, increase incentives for infrastructure projects within the private sector, and encourage more private-public partnerships to more rapidly and efficiently address the national infrastructure challenge.

## Access to Talent

To compete effectively in today's borderless economy, executives strongly emphasized that U.S. companies need access to top science and engineering talent from all corners of the globe to drive world class innovation and R&D. Executives indicated that reaching this goal will require more than improving education. Advancing access to talent also demands policies that will improve and streamline America's ability to attract and retain the best and brightest students, experienced scientists, engineers, and researchers from around the world. Effective immigration policies will both bring highly-skilled workers to the United States and make it possible for them to remain indefinitely, without jeopardizing domestic security.

Current visa policies are complex, limiting, and do not encourage employers to recruit or relocate STEM talent from other markets for critical research and innovation work. Many executives suggested that the U.S. government should employ best practices from countries like Singapore, which seems to successfully target desired talent sets while easing the entry process into the country. Moreover, the national government facilitates additional education in advanced disciplines, in exchange for a commitment to remain in-country for a pre-determined period after graduation. Executives stressed that the battle to recruit, develop, and retain the best talent is a key area where countries and companies will increasingly compete with global rivals, and that rapidly identifying and applying best practices could help the United States stay one step ahead of global competitors in talent cultivation and retention.

Specifically, executives recommended the following actions:

1. Reform visa and green card processes to rapidly deal with backlogs that block access to the talent needed to energize the economy.



*Deere & Company, collectively called John Deere, employs 56,000 people worldwide and spends about \$2 million a day in research and development to supply equipment to three major business segments: construction, agriculture, and commercial and consumer.*

*The company offers farming equipment, services and solutions for its agricultural line of business. The commercial and consumer equipment segment includes North America's broadest line of lawn and garden, tractors, mowers, golf course equipment and other outdoor power products.*

*Photos courtesy of Deere & Company.*

2. Adopt visa best practices from other countries that are successfully attracting and retaining top STEM talent.
3. Change the focus of immigration reform discussions and craft policy that creates opportunities for scientists and engineers born outside the United States to become an integral part of the U.S. scientific community instead of focusing on border protection.

## U.S. Education in Science and Technology

The need to rapidly innovate and develop new products and processes led executives to note a growing gap between their needs and the STEM skills possessed by their employees. Many felt there is a significant opportunity and need to transform the U.S. education system by placing special emphasis on STEM curricula from early education through advanced college programs. Additionally, executives proposed incentives that reward educators and institutions based on performance, not on the number of graduates. There are now more foreign students pursuing advanced engineering degrees in U.S. schools than U.S. students.<sup>6</sup> This trend exacerbates the challenge many U.S. companies face today, given the visa and immigration complexities previously outlined.

The transformation should start early in a reformed U.S. education system. Executives felt that emphasis and effectiveness of STEM education at the elementary and high school levels is not sufficient,

and noted that U.S. students are less interested and performing more poorly in science and engineering disciplines than foreign students. Increasing emphasis on STEM education in lower grade levels would result in greater long-term interest in those disciplines and most likely lead more to consider manufacturing as an attractive career.

To address this issue, executives recommended the following actions:

1. Restructure educational curricula to focus more on STEM skills. Doing so will create a foundation for developing tomorrow's scientists and engineers. Develop flexible paths to help achieve STEM literacy, such as through community colleges, vocational trade schools, worker training programs, et cetera.
2. Promote performance-based legislation and incentives like the America COMPETES Act, the Elementary and Secondary Education Act, Investing in Innovation, and Race to the Top and Teacher Incentive funds.
3. Develop federally funded programs that promote and market manufacturing as a high-value and vital industry with rewarding long-term career opportunities for high school and college students in the United States as researchers, scientists, mathematicians, computer scientists, engineers, technicians, and advanced machine operators. Focus on promoting highly advanced degrees and technical training beneficial to improving U.S. manufacturing competitiveness.
4. Support state university programs that admit higher caliber students into STEM focused programs and increase the number of graduates in STEM fields.

<sup>6</sup> National Center for Education Statistics (2007). Computation by DAS-T Online Version 5.0 on 10/29/2007 using U.S. Department of Education, National Center for Education Statistics, 2003-2004 National Postsecondary Student Aid Study (NPSAS:04).

# Concluding Comments

Many executives noted an absence of interaction between business leaders and policymakers in the United States. Repeatedly, executives suggested that American manufacturers of all sizes are operating in a borderless economy. Nevertheless, policymakers have increasingly introduced, supported, and advocated bordered policies which constrain the potential for growth of American firms operating abroad.

International business can contribute to a strong, successful, and globally competitive economy, and can fuel job growth in the United States in a variety of ways. Executives from both large and small manufacturing firms indicated that an economic strategy focused exclusively on increasing manufacturing in the United States and exports from the United States was not a viable or comprehensive approach in today's complex global market.

Many also noted the need for business and government to work more closely to make America more attractive to investors. It was noted that closer public-private collaboration would also increase the ability of U.S.-based manufacturers to expand globally while providing quality, advanced manufacturing employment opportunities for American workers.

Overall, participants clearly indicated the need for an American manufacturing strategy and related industrial policies. Respondents suggested that the time for change is now, and that the window of opportunity in which to take effective action is narrow. Today, the United States remains the world's largest manufacturing economy. The domestic manufacturing sector is critical to the healthy recovery of the



*NanoMech was founded in 2002 and has given the world breakthrough nano innovations in machining and manufacturing, lubrication and energy, packaging for fresh produce supply chain, biomedical implant coatings and strategic military applications. NanoMech invests in world-class people, ideas and tools to increase competitiveness in the global market.*

*Photo courtesy of NanoMech.*

U.S. economy and its long-term economic prosperity. To ensure America's manufacturing future, however, effective and strategic change is required. In short, as one executive suggested:

"We need to develop a holistic vision and inspirational goals for the future; understand our prosperity is tightly linked to our ability to make things, energize people around that vision, that understanding, and those goals, and then go out and manufacture our future—and the future of our grandchildren—together."

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