U.S. Manufacturing Competitiveness Initiative

Ignite 1.0

Voice of American CEOs on Manufacturing Competitiveness

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Compete.
Council on Competitiveness

Contents

From Our Leadership

The Council launched its 3rd Millennium Manufacturing Initiative 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 our 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 convened in Washington, DC in December 2011 and will provide the Council with a framework for developing ongoing implementation and monitoring efforts in 2012 and beyond.

Modern manufacturing is complex, involving socio-economic 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 we are to regain and retain our position of global leadership. If the United States loses the know-how to manufacture things, then we will lose the know-how to develop and design things, and then we will lose our ability to innovate, attract investments, improve our standard of living, and protect our 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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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. Improve and modernize the U.S. electric grid to increase short and long term reliability and develop the infrastructure needed to facilitate the inclusion of the significant amounts of energy expected and to deliver considerable energy from alternative sources.
5. Incentivize the use of cleaner and more abundant fuels, like natural gas, to supplement the transition away from of 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.
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.

Science, Technology and Inspirational Goals

1. Establish a consortium of business, university, labor, and public sector leaders to establish daring 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 education and other physical, technology, and intellectual infrastructures - that support progress towards 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 U.S.

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 in, out, and throughout the U.S.
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 U.S. to become an integral part of U.S. competitive capabilities 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, etc.
2. Empower performance-based legislation 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 U.S.
4. Subsidize state universities' efforts to attract higher caliber students to STEM programs and increase the number of graduates.

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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, elevating 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 America's people rose to an all-time high.

As the 21st century dawned and developing nations began their drives to improve the prosperity of rapidly growing middle classes, they placed increasing emphasis on developing manufacturing-based economies that would produce high-value jobs and leverage the 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 attract foreign direct investment. Taken together, these factors have given rise to strong domestic consumer markets abroad.

Consequently, the U.S. manufacturing sector today faces unprecedented challenges. According to the *2010 Global Manufacturing Competitiveness Index*[1], which is based on input from over 400 C-suite manufacturing executives around the world, the U.S. ranks fourth in global manufacturing competitiveness behind China, India, and South Korea, and is expected to fall to fifth by 2015, based on the input of 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 working middle class.

Executives participating in the *2010 Global Manufacturing Competitiveness Index*[1] research effort identified 10 broad areas that they believed define 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 had 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, as well as opportunities to leverage new technologies to revive the industrial base, improve competitiveness, grow high value jobs, and increase prosperity in America today and for years to come. To succeed, significant and complex challenges must be tackled, and the Council on Competitiveness has undertaken a significant effort to address these challenges 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 growth, innovation, and sustainable prosperity in the U.S.

Approach & Methodology

Between September 2010 and January 2011, on behalf of the Council on Competitiveness, senior leaders at Deloitte [2] held discussions with approximately three dozen senior executives. These executives represented some of the world's largest manufacturing organizations headquartered in the U.S., and a number of key small and medium sized manufacturers, a demographic which represents the bulk of all U.S. manufacturing employment. These companies, spanning a large swath of manufacturing employment, included diversified manufacturing, process and industrial products, consumer products, automotive, aerospace and defense, technology, life sciences, and both public and private enterprises. Participating companies included firms like Applied Materials, Deere & Company, Dow Chemical Company, DuPont, PepsiCo, Bayer Corporation, Procter & Gamble, Ford Motor Company, Chrysler Corporation, Lockheed Martin Corporation, ACE Clearwater Enterprises, General Electric, and many more. These discussions were done on an individual basis, typically occurring in the executive's office, with a handful occurring over the phone. These 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 policy makers should do to improve U.S. manufacturing competitiveness, reinvigorate the industrial base, create jobs, and drive a sustainable economic recovery.
- Important areas their individual company's must address to compete effectively over the next five years with their closest global competitors.

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

Key Insights & Recommendations

The following report outlines key short 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, on-going productive dialogues focused on creating an environment in the United States that promoted 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 the results of certain investments in areas like education would be realized in the long term, but that action on these fronts should begin immediately. Other areas of focus noted by executives, 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.

Passion for the U.S. 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, depth of passion for a globally competitive U.S., and the importance of a robust and innovative manufacturing base to our economic future emerged as common themes. Participants made it exceedingly clear that these factors were inextricably linked to our short and long term prospects for job creation, security, and prosperity as a nation today and tomorrow, for our children and our grandchildren. 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 21st 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.

21st 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 the topic considerable thought, and it was clear most gave public policy issues meaningful attention on a regular basis. Several executives also offered 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 21st 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 offered through these efforts. The integration of the key principles offered by these executives is as follows:

1. Policymakers should strive considerably less to seek to create a single, specific, concrete industrial policy for the future of U.S. manufacturing and much more to develop an achievable set of goals that ensures the U.S. 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 U.S. Our global trading partners must grow their economies in order for the U.S. to grow its own economy. Similarly, 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 a critical element of 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 all facets of 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 increasing numbers of physical products. Properly understanding the breadth of today's manufacturing 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.

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 and long term decision making. Many participants emphasized that as business leaders, they routinely develop strategic business plans and make supporting investments with 10 to15-plus year horizons, yet are faced with a reality in which policies do not provide enough long term 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 the critical costs and competitiveness variables.

Clarity and permanency 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 by executives of policy 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 policy leaders to collaborate on creating long term competitiveness solutions and limiting uncertainty.

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 our 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. Many felt a tax rate comparable to other strong manufacturing countries would improve American corporations' ability to invest, innovate, and be more competitive globally. A benchmarking study with 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 interviewed believe 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 U.S., which was then funneled back into the economy.

Long term, many participants felt that a territorial tax rate policy should be developed. This could allow American corporations to increase investment in the U.S. and shrink the current federal deficit.

The federal deficit was repeatedly cited as a major concern in the long term, but executives also felt that immediate action was needed to reduce the deficit, and very importantly, the borrowing costs for the U.S. Moreover, the executives argued that excessive federal debt would be a drag on growth in the long term, and adversely impact current and future manufacturing product and process innovations and future productivity gains.

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. Our ability to innovate and develop technological advances is key to our competitive advantage in the future. Therefore, we must invest in long term basic and advanced research 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 U.S. 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. We need to provide U.S. headquartered companies the same competitive advantages that our 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 consistency over the long term would be even more beneficial in reducing uncertainty and increasing investment.

Energy Policy

Many discussions with executives strongly suggested that a clear energy policy in the U.S. 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, 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 into their U.S. business operations.

According to those interviewed, creating an energy policy that properly incentivized businesses and sent clear market signals could drive investments that ease dependence on fossil fuels in favor of clean energy sources, and lower 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 our 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.
2. Immediately begin planning to increase use of nuclear power, it being an available and scalable low-carbon technology.
3. Increase collaboration with businesses on new regulations to ensure they are cost-effective and attainable. Regulations should also employ available technologies in an effort to increase efficiency and advance competiveness 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 of critical importance 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[3]. 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 the ability to

look abroad to increase sales, as well as to access leading technologies and attract highly educated professionals is critical to spurring 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 [4]. They also indicated that much work remains to be done. Some executives indicated 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 detriment to 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. A level playing field would require a broad application of the key drivers of cost and competitiveness. 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 towards 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 markets competitors were global.

Most of these executives also stressed that disadvantaging large multinationals through ill-advised protectionist policies disadvantaged the small and medium domestic manufacturers as well, as many of these firms are critical partners in large and complex global supply chains. According to these executives, in the global market of tomorrow, U.S. jobs will be increasingly dependent on international business, meaning the dynamics of competition will no longer be between large U.S. multinationals and small and medium sized U.S. domestic manufacturers, but with 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 U.S. 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 the rapidly evolving global supply chains and markets. Protected technology should be reassessed in a timely manner in order for 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. Balance access to global consumers, spur investment, and keep pace with our global competitors' aggressive negotiating strategy 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 ensuring compliance with WTO rules and regulations, minimizing unacceptable obstructions to trade, currency manipulation, restricted access to markets, and violation of intellectual property rights.

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

Regulatory and Legal Environment

Executives interviewed for this report felt that U.S. companies would benefit from a new approach to the regulatory process. Specifically, they suggested that regulators adopt a method for assessing proposals and actions 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 interviewed for this report 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 don't have the financial resources to address increasing 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. Many executives felt a more balanced system would significantly 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 in the U.S., where threats 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 dramatically 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 critical areas retards a company's ability to rapidly respond to global competitors, 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 supported over the long term to afford businesses an opportunity to make strategically sound business 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 stagnating 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 achieving the regulatory standards.

Science, Technology and Inspirational Goals

Executives frequently suggested that federally supported long term goals have been catalysts for innovation and advancement 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 – advancements 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 advancement 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 spur the competitive U.S. spirit, inspiring additional investment in innovation and promoting the cultivation of highly skilled scientists, engineers and workers, as well as the manufacturing capabilities required to advance U.S. competiveness for decades to come.

To reach this objective, executives recommended:

1. Policy leaders should establish a consortium of business, university, labor, and public sector leaders to establish 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 education and other physical, technology, and intellectual infrastructures - that support progress towards 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, road, 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 executives believed that undertaking these efforts would improve export channels for U.S. manufacturers, make the U.S. an increasingly attractive location for foreign direct investment, and result in increased employment opportunities for workers, 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 21st 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 U.S. 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 in, out, and throughout the U.S.

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 in an effort 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 this talent to the U.S. and make it possible for them to remain in America indefinitely without jeopardizing domestic security.

Current visa policies are complex, limiting, and do not encourage employers to recruit or relocate science, technology, engineering, and mathematics (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. Participants indicated that Singapore 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 and makes it more difficult for students to leave upon 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 U.S. 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.
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 U.S. 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 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 pursing advanced engineering degrees in U.S. schools than U.S. students[5]. This trend exacerbates the challenge many U.S. companies face today given the visa and immigration complexities previously outlined.

Transformation, according to many of the executives interviewed for this report, should start early in a reformed U.S. education system. They 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. Increasing emphasis on STEM education in lower grade levels would result in greater long term interest in manufacturing, and lead more to consider manufacturing as an attractive career.

To address this issue, executives recommended the following actions:

1. Restructure education 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, working training programs, etc.

2. Promote performance-based legislation 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 U.S. 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.

Concluding Comments

Generally speaking, many executives noted an absence of interaction between business leaders and policymakers in the United States. Repeatedly, we heard comments from executives that suggest American manufacturing corporations of all sizes are operating in a borderless economy, yet policymakers have increasingly introduced, supported, and advocated bordered policies negatively impacting firms, who in their quest to remain globally competitive, invest outside of the United States. This has resulted in policies that are not effective in increasing U.S. manufacturing competitiveness, and create many unintended consequences.

International business can contribute to a strong, successful and globally competitive economy, and can fuel job growth in the U.S. 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 U.S. and exports from the U.S. was not a viable or comprehensive approach in today's complex global market.

Many executives also noted the need for business and government to work more closely to make America more attractive for investment. 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, interview 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 U.S. remains the world's largest manufacturing economy. The domestic manufacturing sector is critical to the healthy recovery of the 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".

About the U.S. Council on Competitiveness

The Council's mission is to set an action agenda to drive U.S. competitiveness, productivity and leadership in world markets, and to raise the standard of living of all Americans.

The Council on Competitiveness is the only group of corporate CEOs, university presidents, and labor leaders committed to the future prosperity of all Americans and enhanced U.S. competition in the global economy through the creation of high-value economic activity in the United States.

The key to U.S. prosperity in a global economy is to develop the most innovative workforce, educational system, and businesses that will maintain the United States' position as the global economic leader.

The Council achieves its mission by:

- Identifying and understanding emerging challenges to competitiveness
- Generating new policy ideas and concepts to shape the competitiveness debate
- Forging public and private partnerships to drive consensus
- Galvanizing action to translate policy into action and change

The Council on Competitiveness is a non-partisan, non-governmental action think-tank located in Washington, D.C.

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End Notes

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[2] 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.

[3] 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

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[5] 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).