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President & CEO

Council on Competitiveness



Testimony before the House Energy & Commerce Committee's Subcommittee on Commerce, Manufacturing, and Trade

“Made in America: Innovations in Job Creation and Economic Growth”

March 3, 2011

Summary

The U.S. manufacturing sector is a key engine of innovation, wealth generation, job growth and national security. America cannot retain its position of leadership in the global marketplace without a robust and vibrant industrial base. The following testimony will address the barriers facing domestic manufacturers, and avenues to advance the global competitiveness of this critical sector of the American economy. In a recent report released by the Council on Competitiveness and Deloitte, the input and perspective of nearly 40 CEOs on manufacturing competitiveness were recorded. These executives, representing organizations whose annual revenues approach \$1 trillion and employ 2.2 million workers worldwide shared the following insights on the needs of U.S. manufacturers in the near-term and long-term:

Founder
John A. Young
Hewlett-Packard Company

1. Lawmakers should strive to develop an achievable set of goals that ensures the U.S. is the most vibrant and attractive place to invest and do business; and 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, instead of trying to restore jobs or industries that have become uncompetitive.
3. Higher productivity will always be necessary to stay competitive on the global stage. 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 this development.
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 also grow their economies in order for the U.S. to grow its own economy.
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.

Chairman Bono Mack, Ranking Member Butterfield and members of the subcommittee, thank you for the opportunity to provide testimony today and share my thoughts on this important issue. I believe strongly that America's competitiveness is inextricably linked to our ability to innovate and translate new ideas into new products, services, industries and jobs. Decisive leadership on this front is critical for the long-term economic health of our country.

History of the Council

To contextualize my remarks, I want to share a brief history of the Council on Competitiveness, which is celebrating its 25th Anniversary this year. Begun in 1986, the Council is a community of U.S. leaders who work together to ensure economic growth, national security and a better quality of life for all Americans. Our unique membership – corporate CEOs, university presidents, labor leaders and national lab directors – collaborate to establish action agendas and deliver strategic, operational and innovative solutions that drive our nation's competitiveness in the global economic arena.

By maintaining our reputation as an established and forward thinking non-partisan organization, the Council has worked successfully with every Administration in its 25 year history. Policymakers listen to and adopt our recommendations because they understand that our only special interest is America's enduring prosperity. Recent examples of collaboration with the federal government include the COMPETES Reauthorization Act and the HPC Midwest Pilot project, announced yesterday.

We are very excited about the HPC Midwest Pilot project, which is a new public-private effort being coordinated by the Council to provide access to advanced modeling and simulation capabilities to manufacturers of all sizes across the country. Advanced modeling and simulation can enable manufacturers to reduce costs, increase speed to market, and innovate next generation products and technologies.

U.S. Manufacturing Competitiveness Initiative (USMCI)

Recognizing the challenges facing American manufacturers more generally, the Council formally launched the U.S. Manufacturing Competitiveness Initiative (USMCI) in June of 2010. Building on the pioneering work of prior Council efforts around innovation and energy sustainability, the USMCI is led by Sam Allen, the Chairman & CEO of Deere & Company; Michael Splinter, the Chairman, President & CEO of Applied Materials; Shirley Ann Jackson, the President of RPI; James Quigley, the Chief Executive officer of Deloitte Touche Tohmatsu; Susan Hockfield, the President of MIT; William Hite, the General President of the United Association of Plumbers and Pipefitters; and George Miller, Director of Lawrence Livermore National Laboratory.

We feel that America cannot maintain its position of leadership in the global economy without a robust, innovative and resilient U.S. manufacturing base. Manufacturing is, and will continue to be an essential path for creating high-value jobs, attracting investments and spurring innovation in America for years to come.

Much of the Council's work on manufacturing competitiveness is focused on the development of a comprehensive National Manufacturing Strategy, slated for release on December 8, 2011 at our National Manufacturing Summit. Our Manufacturing Strategy envisions a vibrant, diversified and technologically advanced manufacturing sector that will create high-paying American jobs, stimulate long-term economic growth and prosperity, embrace energy sustainability, and improve our ability to meet national defense mission needs. An overview of the USMCI is attached for your review.

Ignite 1.0 -- Voice of American CEOs on Manufacturing Competitiveness

The United States is at a significant tipping point. The decisions we make now will impact our children, our grandchildren and their children. The stakes have never been higher. We must continue to make critical strategic investments in our future while addressing huge deficits and a national debt that threatens to strangle our ability to invest, create jobs and grow the economy. There are tough choices to be made, and the report that I have submitted to the record, ***Ignite 1.0 – Voice of American CEOs on Manufacturing Competitiveness***, begins to shine a light on what these CEOs believe some of those choices should be.

Developed from a series of interviews with nearly 40 CEOs over the past several months, Ignite 1.0 and its recommendations will directly inform our National Manufacturing Strategy, and serve as a cornerstone in our broader efforts to bolster U.S. manufacturing. In keeping with the Council's unique and inclusive perspective, Ignite 1.0 will be the first of four reports that we will release in 2011. Ignite 2.0 will summarize a series of interviews with university presidents and national lab directors, and be released in June. Ignite 3.0

will summarize interviews with labor leaders and be released in September, and Ignite 4.0 will summarize interviews with Chief Technology Officers and be released prior to our Manufacturing Summit in December.

The perspectives in Ignite 1.0 represent the voices of leaders whose companies boast total global revenues approaching \$1.0 trillion annually. Moreover, these firms employ over 2.2 million people, with over half of that revenue and those employees being U.S. based.

The CEOs interviewed represent organizations ranging in size from large multi-national manufacturing organizations like:

- Applied Materials
- Deere & Company
- Dow Chemical Company
- DuPont
- PepsiCo
- Bayer Corporation
- Honeywell
- Procter & Gamble
- Ford Motor Company
- Chrysler Corporation
- Lockheed Martin Corporation.

Small and medium manufacturers were also interviewed because they provide the backbone of American manufacturing and job creation, with input shared by leaders from companies like:

- Timken
- ACE Clearwater Enterprises
- Bishop-Wisecarver
- Click Bond
- NanoMech, a start-up nano-technology manufacturer.

Policy recommendations received from these executives spanned the following topic areas:

- Tax Policy and Deficit Reduction
- Energy Policy
- Trade Policy
- Regulatory and Legal environment
- Science, Technology and Inspirational Goals
- Infrastructure Investments
- Access to Talent, and
- U.S. Education in Science and Technology

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 directly correlated to our short-term and long-term prospects for job creation, security, and prosperity.

Most participants 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 21st century, given a new approach to setting public policy. Many also indicated that 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.

Key Insights:

Specifically, executives shared the following insights, featured in our report:

1. In lieu of a single and concrete U.S. industrial policy, lawmakers should strive 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, instead 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 expanding, and public policy is stimulating new business creation, new job creation, and attracting investment to drive this development.
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 also 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.

Uncertainty and Opportunity

Another theme from the interview process was concern over continued uncertainty in policy, legislation and regulation development. While, executives applauded recent agreements in the areas of tax policy and global trade, interviewees stated that uncertainty remained high, and many opportunities still exist for business and policy leaders to collaborate on creating long term competitiveness policies which limit uncertainty.

Respondents suggested that this uncertainty directly impacted both short and long-term decision making, as near-term uncertainty makes long-term planning difficult and risky. To mitigate uncertainty, interviewees proposed several specific short and longer term 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 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.

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 and security. In the near-term, this means advancing U.S. manufacturing competitiveness and stimulating domestic job growth.

Concluding Comments

CEOs representing companies of all sizes stressed that 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 economic strategies and policies must acknowledge the challenges and opportunities provide by a highly complex and integrated global marketplace. A market where 95 percent of middle class consumers will live and work outside the United States.

Many executives also noted the need for business and government to work more closely together 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.

Members of the subcommittee, the time for change is now, and the window of opportunity in which to take effective action is narrow. Today, the U.S. remains the world's largest manufacturing economy, and 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. A decline in American manufacturing is not inevitable, but to retain our position of leadership in the global marketplace, America must continue to out innovate, out produce and out compete emerging manufacturing powers, and we need the help of Congress to realize this vision.

Thank you.

Committee on Energy and Commerce

U.S. House of Representatives

Witness Disclosure Requirement - "Truth in Testimony"
Required by House Rule XI, Clause 2(g)

1. Your Name: <i>Deborah L. Wince-Smith</i>		
2. Are you testifying on behalf of the Federal, or a State or local government entity?	Yes	No <input checked="" type="checkbox"/>
3. Are you testifying on behalf of an entity that is not a government entity?	Yes <input checked="" type="checkbox"/>	No
4. Other than yourself, please list which entity or entities you are representing: <i>The U.S. Council on Competitiveness</i>		
5. Please list any Federal grants or contracts (including subgrants or subcontracts) that you or the entity you represent have received on or after October 1, 2008: <i>See attachment</i>		
6. If your answer to the question in item 3 in this form is "yes," please describe your position or representational capacity with the entity(ies) you are representing: <i>Deborah Wince-Smith President & CEO Council on Competitiveness</i>		
7. If your answer to the question in item 3 is "yes," do any of the entities disclosed in item 4 have parent organizations, subsidiaries, or partnerships that you are not representing in your testimony?	Yes	No <input checked="" type="checkbox"/>
8. If the answer to the question in item 3 is "yes," please list any Federal grants or contracts (including subgrants or subcontracts) that were received by the entities listed under the question in item 4 on or after October 1, 2008, that exceed 10 percent of the revenue of the entities in the year received, including the source and amount of each grant or contract to be listed: <i>See attachment.</i>		

Signature:

Deborah L. Wince-Smith

Date:

March 1, 2011

Council on Competitiveness
Grant Projects as Evidence of Capability and Experience

<u>Grant/Contract Agency</u>	<u>Contract/Grant Number</u>	<u>Title of Project</u>
U.S. Department of Commerce Economic Development Administration (Council share at \$20,000.00)	99-07-13856	21st Century Regionalism
National Renewable Energy Laboratory for Alliance for Sustainable Energy, LLC	AXL-9-99202-01	US-Brazil Energy Efficiency And Renewable Energy Innovation Partnerships
U.S. Department of Energy NETL - Morgantown	DE-EE0000038	Energy Security, Innovation and Sustainability Initiative
Department of Defense Directorate for Research & Engineering (subcontractor)	W15QKN-107-1-0002	Technology Leadership Colaborative
Ohio State University Research Foundation (subcontractor)	P.O. # RE01123866	NSF High Performance Computing Grant
Department of Energy Office Of Science High Performance Computing	DE-FC26-09NT07208	High Performance Computing

Compete.org — Council on Competitiveness

Council on Competitiveness

President

Deborah L. Wince-Smith



Deborah L. Wince-Smith is the president & CEO of the Council on Competitiveness, the only place where CEOs, labor leaders and university presidents are working together to ensure that Americans prosper in the global economy. Founded in 1986, this unique business-labor-academia coalition recommends actionable public policy solutions to make America more competitive in the global marketplace.

Wince-Smith is internationally renowned as a leading voice on competitiveness, innovation strategy, science and technology policy, energy, education, economics and business.

As president of the Council, Wince-Smith spearheaded the groundbreaking National Innovation Initiative (NII), which played a pivotal role in creating a reinvigorated U.S. competitiveness movement. The NII shaped the bipartisan America COMPETES Act, created state and regional innovation initiatives, and brought a global focus to innovation.

Wince-Smith is a member of the board of directors of NASDAQ-OMX, Inc., and serves on the Audit, Compensation and Finance Committees. She is also a Senate-confirmed member of the Oversight Board of the Internal Revenue Service, responsible for administering the Nation's tax laws, and the U.S. Department of State's Advisory Committee on International Economic Policy. She recently chaired the Secretary of Commerce's Advisory Committee on Strengthening America's Communities. She has served on four Cabinet-level advisory groups, including the Secretary of Energy's Task Forces on the Future of Science and Nuclear Energy.

Wince-Smith serves on the University of Chicago's Board of Governors for Argonne National Laboratory and was a long-standing member of the University of California President's Council on the National Laboratories, providing oversight for Los Alamos, Lawrence Livermore and Lawrence Berkeley National Laboratories. She also serves on the board of directors at the Albert Shanker Institute and the U.S. Naval Academy Foundation.

During her 17-year tenure in the federal government, Wince-Smith held leading positions in the areas of science, technology policy

and international economic affairs. Most notably, she served as the nation's first assistant secretary of commerce for technology policy in the administration of George H.W. Bush, overseeing federal technology transfer policy, implementation of the Bayh-Dole Act, and the White House National Technology Initiative. She was also the first assistant director of international affairs and competitiveness in the White House Office of Science and Technology Policy and the architect of the landmark Head of Government Science and Technology Agreement with Japan.

Wince-Smith developed President Reagan's Competitiveness Initiative, and led the implementation of executive orders and new laws that transformed federal technology transfer policy for U.S. national laboratories and American industry.

She began her career as a program director for the National Science Foundation, where she managed U.S. research programs with Eastern European countries and U.S. universities. Wince-Smith earned her Bachelor of Arts, magna cum laude, from Vassar College and her master's degree in classical archeology from King's College at the University of Cambridge. In 2006, she received an Honorary Doctor of Humanities degree from Michigan State University.

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3rd Millennium Manufacturing: U.S. Manufacturing Competitiveness Initiative

For American Jobs, Growth and Security



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Manufacturing is Critical

Manufacturing competitiveness is one of the great challenges and opportunities of our time – one that will determine the legacy America bequeaths to its children and grandchildren. Jobs, investment, game changing innovations, economic prosperity, improved standards of living and national security depend on the creativity and commitment of our nation to lead a new era of manufacturing at home and abroad. This new era of manufacturing excellence will render traditional production models obsolete, and instead favor new and innovative manufacturing processes which will come to define 3rd Millennium Manufacturing.

3rd Millennium Manufacturing spans ideas, products and services; well beyond the production of only goods as in the 20th century. The 3rd Millennium Manufacturing ecosystem represents a complex and highly integrated globalized value web. This web includes cutting-edge science and technology, innovation, talent, sustainable design, systems engineering, supply chain excellence and a wide range of smart services; in an energy efficient, sustainable and low carbon environment.

3rd Millennium Manufacturing demands new thinking, new policies, new organizations and deeper collaboration to attract, expand and retain manufacturing investment. 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.

Initiative Goal

We will prepare and deliver a comprehensive 3rd Millennium National Manufacturing Strategy to private sector leaders, the Administration, Congress, Governors and other key stakeholders at a National Manufacturing Summit convened in Washington, D.C., December 7-8, 2011. The strategy will provide the Council with a framework for developing ongoing implementation and monitoring efforts in 2012 and beyond.

Challenges and Opportunities

Manufacturing, long a cornerstone of U.S. competitiveness, faces intense competition from all corners of the globe. In 2009, Global Insight estimates that United States manufacturing output was 19.9 percent of global total and China's was 18.6 percent. They further estimate that China will surpass the United States in 2011 and for the first time in 110 years, America will be the world's second largest producer of manufactured goods.

Global manufacturing executives viewed the United States as the 4th most competitive manufacturing economy, behind China, India, and South Korea in a

recent survey conducted by the Council and Deloitte. These same executives believe that the United States will slip to 5th place by 2015 as Brazil continues to increase its economic power.¹

There are enormous opportunities to create a new century of American manufacturing leadership. The digital, biotechnological, and nanotechnology revolutions are rewriting the rules of production and services. These ground-breaking technologies will unleash vast opportunities for innovation. They enable new business formation and job creation. They also serve as platforms for new industries and new markets.

Demand for manufactured goods is being reshaped by new forces. Huge markets are emerging around the world. By 2030, 5 billion people could be middle class, up from 1.8 billion in 2009. And 80 percent of these middle class consumers will live outside the developed world we know today.² These consumers will demand a wide range of products and services.

Initiative Organization

A CEO-Level Leadership Council and Steering Committee, comprised of chief executives from industry, academia, organized labor and national laboratories, 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.

Members of the Steering Committee will organize and lead Policy Solution Groups (PSGs) to develop recommendations that address specific elements of the manufacturing ecosystem—including talent, technology, investment and infrastructure. Each PSG will study discrete issues and produce an interim and final report for the Steering Committee—that will, in turn, summarize key findings and policy recommendations.



¹ Council on Competitiveness and Deloitte Touche Tohmatsu, *2010 Annual Global Manufacturing Competitiveness Index*.

² *The Expanding Middle: The Exploding Middle Class and Falling Global Inequality*, Goldman Sachs, 2008.

Executive and Expert Advisors

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.

Distinguished Member and Affiliate Partners

The Council cultivates partnerships with leading national organizations on issues of mutual concern. In bridging the interests and insights of many, the Council brings multi-disciplinary analysis and systems thinking to its work.

Public Sector Engagement

The Council works closely with policymakers from across the Administration and Congress to foster holistic and integrated policy solutions. Congressional staffs from both parties serve as advisors to the Council to ensure that recommendations are aligned with priorities and timelines.

2011 Key Dates

Jan - Oct	CEO-Led Policy Solution Group Dialogues
Feb 17	Release <i>Voice of American CEO's on Manufacturing Competitiveness and Ignite 1.0, Recommendations for 3rd Millennium Manufacturing</i>
Jun 13-14	Steering Committee Meeting hosted by Allen Mulally, President and CEO, Ford Motor Co.
Dec 7-8	National Manufacturing Summit in Washington, D.C. and release of <i>Ignite 2.0, Comprehensive National Manufacturing Strategy</i>

About the Council

Since 1987, the Council has brought forth creative solutions to America's most pressing competitiveness challenges. Composed of leaders from industry, academia and organized labor, the Council is unique in its ability to build synergies and consensus across a wide span of organizations and interests. By leveraging its exceptional convening power, the Council attracts the best minds, at the right time to the right issues. Not representing a singular interest, the Council operates at the level of the national interest, taking a systems approach in framing the problem and developing solutions. The Council proactively engages all perspectives and forges critical partnerships with stakeholders in the public and private sectors.

CEO-Level Leadership Council and Steering Committee

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Chairman and CEO
Deere & Company

Michael R. Splinter
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Applied Materials, Inc.

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U.S. Manufacturing Competitiveness Initiative

Ignite 1.0

Voice of American
CEOs on Manufacturing
Competitiveness

January 2011
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Compete.

Council on
Competitiveness

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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 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 Deloitte² 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 to 15-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 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 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 States³. 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. competitiveness 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 pursuing advanced engineering degrees in U.S. schools than U.S. students⁵. 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

¹ 2010 Global Manufacturing Competitiveness Index. http://www.deloitte.com/assets/Dcom-Global/Local%20Assets/Documents/Manufacturing/DTT_Global_Manufacturing_Competiveness_Index_6_23_2010.pdf

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>

⁴ Benefits of the FTA. <http://www.uskoreafta.org/about/benefits-fta>

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).