

The National Association of Manufacturers (NAM), the nation's largest industrial trade association representing small and large manufacturers in every industrial sector and in all 50 states, appreciates the opportunity to provide comments to the President's Council of Advisors on Science and Technology on ways to enhance our nation's advanced manufacturing capability.

Technology -- and the ability to translate innovation into products and services that meet the needs of businesses and consumers -- bolsters the United States' economy and our standard of living. Just as technology is essential to strong economic growth and U.S. global competitiveness, manufacturing is essential to technological advancement. No sector has played a more important role in developing new technologies than manufacturing. Similarly, manufacturers lead the way in adopting new technologies to maximize efficiency and productivity.

Despite these advances, international competition continues to grow, and America's advantage in developing new technology can no longer be taken for granted. In order for the U.S. to maintain its competitive edge, it must promote forward-looking policies that encourage technology and, by extension, the growth of the U.S. economy.

## **Development of New Manufacturing Technologies**

### *National Laboratories*

The NAM supports expanding the mission of national laboratories to include research and development (R&D) challenges relevant to advanced manufacturing. Key federal research agencies such as the National Science Foundation (NSF), the National Institute of Standards and Technology (NIST) and the Department of Energy's (DOE) Office of Science have been conducting ground-breaking research that directly impacts advanced manufacturing technology and, in turn, strengthens the future of American manufacturing.

Manufacturers continue to be strong advocates for reauthorizing the America COMPETES Act, which would double the funding for these core research agencies. This will help us develop our next-gen technologies and help create both short- and long-term jobs. If the core mission of our national laboratories is to be expanded to include advanced manufacturing, it would be appropriate to also increase the funding to the federal agencies conducting the research, so that the goals of the America COMPETES Act are not compromised.

### *Other Ideas*

In addition to our support for federal agency research, the NAM also believes a key component to increasing advanced manufacturing capability is a permanent and strengthened R&D tax credit.

Manufacturers are innovators, claiming more than 70 percent of all R&D credits. This R&D fuels technological innovation that translates into new products and increased productivity – two key factors necessary for growth in the manufacturing sector and the overall economy and resulting in spillover benefits to American workers in terms of higher wages and a higher standard of living.

The NAM's recent *Jobs for America* report prepared by the Milken Institute (January 2010) found that strengthening and making permanent the R&D tax credit would boost total U.S. employment by 510,000 within a decade. In the long term, enactment of a strengthened, permanent R&D tax credit would provide the certainty companies need for planning future R&D investments.

## **Support for New Manufacturing Firms**

### *Government-Industry-University Innovation Clusters*

Regional manufacturing-based clusters represent a valuable source of needed innovation, knowledge transfer and improved productivity. While the federal government cannot establish additional clusters, it can promote cluster development and growth nationwide.

The government's approach should be flexible, bottom-up and collaboration-oriented, rather than prescriptive, top-down focused. Appropriate government roles might be to provide information about cluster geography and initiatives with associated research on cluster dynamics, and to offer financial incentives by aligning the many current economic, research and workforce-development grant programs to help regional cluster leaders leverage current funding streams.

### *Small Firm Assistance*

The NAM also is a strong supporter of targeted government funding for small and medium-sized manufacturers through the Hollings Manufacturing Extension Partnership (MEP). More than 8,000 of the NAM's members are small or medium-sized manufacturers, and many of these companies have benefited first-hand from the MEP.

Research has shown that companies participating in the MEP achieve productivity gains more than four times greater than businesses that have not worked with MEP. Because of the importance of this program to the future of U.S. manufacturing, we welcome increased funding and expansion of the program to include advanced manufacturing.

### *Other Ideas*

Our nation's cyber-preparedness is of critical concern to manufacturers, especially to those employing advanced manufacturing technologies that utilize our nation's information infrastructure.

The NAM is committed to strengthening the private-sector cyber-infrastructure. As such, we recommend the use of targeted incentives to ensure businesses strive to implement industry-approved best practices and standards in cybersecurity. These incentives could include procurement preferences for compliant businesses, safe harbors and limits to liability, and access to additional cybersecurity insurance in order to mitigate losses from catastrophic events.

An additional incentive would be the creation of a CyberSAFETY Act, similar to the SAFETY Act passed in the wake of 9/11, which was instrumental in encouraging the development and deployment of new and innovative anti-terrorism products and services by providing liability protections. A proposed CyberSAFETY Act would similarly protect products, services, software and other forms of intellectual property to encourage private sector innovation in cybersecurity.

## **Support for Existing Manufacturing Firms**

### *International Benchmarking*

The NAM encourages a rigorous effort by the federal government to benchmark U.S. manufacturing infrastructure internationally against our major competitor nations. Any such effort would need to include not only technology platforms, but also physical infrastructure (e.g. ports, highways, airports and air traffic management systems, inland waterways, power generation) and other key competitiveness factors such as tax rates, workforce training and skills and litigation costs.

### *Manufacturing Workforce Training and Certification*

For manufacturers, the application of skills in real-world workplaces is critical to developing an educated and skilled manufacturing workforce for the 21<sup>st</sup> century. Government should focus resources on certifications that are industry recognized and nationally portable.

A portable skills certification system, developed and recognized by broad industry partners and implemented in high school and local two- and four-year college programs, coordinates the needs of advanced manufacturing with that of existing educational pathways.

When academic and technical programs are aligned with industry needs and standards, students gain recognized credentials and companies gain skilled workers. For example, schools in 23 states are now interested in aligning their educational programs of study with the NAM-Endorsed Manufacturing Skills Certification System. These states

recognize that an educated and skilled workforce is important to their manufacturers' business success.

By creating more pathways for secondary and post-secondary education and aligning education with industry-recognized skills credentials, the United States can create the kind of manufacturing workforce that will facilitate ever-needed product and process innovations in an evolving global business climate.

### *Other Ideas*

Implementation of a 21<sup>st</sup> century export control regime is a significant component to enhance our broader national security and economic competitiveness strategy. Unfortunately, the current system hinders trade with key allies and encourages foreign consumers to purchase goods and technology from non-U.S. suppliers. In turn, this impacts R&D as U.S. manufacturers lose out due to wait times for export licenses or approvals to export. High costs of compliance hit small and medium-sized manufacturers especially hard, making it difficult for them to expand operations by exporting abroad.

Modernizing U.S. export controls could increase exports in high-value areas. By 2019, these policy adjustments could enhance real GDP by \$64.2 billion (0.4 percent), create 160,000 manufacturing jobs and heighten total employment by 340,000. Existing manufacturers need a modernized export control system that allows both the government and manufacturers to utilize limited resources in the most efficient manner.

The NAM also believes that America's global manufacturing competitiveness requires tapping into the 95 percent of global consumers (and nearly 80 percent of global purchasing power) found outside the United States. We strongly support President Obama's National Export Initiative (NEI) and the ambitious goal of doubling U.S. exports over the next five years. To help achieve this goal, we encourage the following actions:

- Aggressively attack unfair Non-Tariff Barriers (NTB) erected by trading partners, which keep U.S. products, including advanced manufacturing products, out of some important and fast-growing markets;
- Strengthen U.S. government efforts to strengthen international rules and enforcement on Intellectual Property Rights (IPR);
- Expand and strengthen U.S. export promotion programs; and
- Pass the outstanding bilateral trade agreements.

## **A National Manufacturing Strategy**

The NAM's recently released *Agenda for Job Creation and Competitiveness* provides a comprehensive strategy and specific proposals for achieving economic growth. As part of that strategy, the report entitled *Jobs for America: Investments and policies for economic growth and competitiveness* provides an analysis of our growth agenda and concrete examples of how these proposals will help to spur economic growth and job creation. We believe that a national manufacturing strategy should include the following key components:

### **Economic and Tax Policy**

*Corporate Taxation:* Reducing the U.S. corporate income tax rate to match the OECD average would trigger new growth. By 2019, it could boost real GDP by \$375.5 billion (2.2 percent), create an additional 350,000 manufacturing jobs and increase total employment by 2.13 million.

*R&D Tax Credit:* Increasing the R&D tax credit by 25 percent and making it permanent could boost real GDP by \$206.3 billion (1.2 percent), generate 316,000 manufacturing jobs and raise total employment by 510,000 within a decade.

### **Infrastructure Investment**

The proposed investments analyzed in the *Jobs for America* report, totaling \$425.6 billion across 10 projects over three years (with just over half in highway and transit initiatives), translate into \$1.4 trillion in total output, including the ripple effects generated across all sectors.

Taken together, these 10 investments have the potential to create 3.4 million jobs directly and, including all the ripple effects, 10.7 million jobs in total (an average annual increase of 3.5 million across three years).

The projects outlined could generate direct earnings of \$147.1 billion (and total earnings of \$420.6 billion, including all ripple effects).

### **In Conclusion**

We thank the Council for its work on enhancing advanced manufacturing capabilities. As progress on this issue continues, we look forward to continuing the discussion on how to expand and encourage scientific advancement in the United States.