

Testimony

of

Mark A. Gordon

National Defense Industrial Association

Manufacturing Division

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Subcommittee on Commerce, Manufacturing, and Trade

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Hearing on “American Manufacturing Competitiveness Act of 2012.”

Major themes:

- NDIA endorses this legislative proposal, but notes that as written, the comprehensive analysis will require considerable effort, resources will be required commensurate with the expected level of effort.
- The U.S. manufacturing sector is vital to the nation's economic and national security, and millions of jobs depend directly on our ability to competitiveness in manufacturing.
- Developing a competitive manufacturing sector requires a national manufacturing ecosystem that simultaneously addresses structural limitations, technology investments and bridging the gap to efficient scale up.
- The Administration is actively pursuing a strategy to guide Federal programs and activities in support of Advanced Manufacturing R&D.
- The Defense Department is uniquely dependent upon the U.S. Industrial base to meet warfighter and force structure requirements and it must be carefully managed in this reduced funding environment
- The FY13 DoD Budget prioritizes advanced manufacturing in order to deliver the technological advantage required by the 2012 Defense Strategic Guidance.
- The DoD NNMI pilot institute will both lead to a more competitive sector in Additive Manufacturing Technologies and prepare the groundwork for a broader network of institutes.

Chairman Mack and members of the Committee, I am Mark Gordon, Director of Defense Programs at the National Center For Advanced Technologies and a member of the Executive Committee of the Manufacturing Division at the National Defense Industrial Association (NDIA). On behalf of the 1793 corporate members of NDIA including 97,365 individual members, I'm pleased to appear before the House Subcommittee on Commerce, Manufacturing, and Trade today to discuss the need for an American Manufacturing Competitiveness Strategy to successfully develop a national ecosystem supporting manufacturing, which has significant economic and national security implications for the U.S..

There is should be no doubt as to the importance of the manufacturing sector to the economic and national security of the U.S., with statistical measures such as 12% of GDP directly related to manufacturing and 30% of GDP impacted by manufacturing, 70% of industrial R&D funded by manufacturing related firms, the highest economic benefit multiplier of any economic sector, and 50% of the country's exports. More importantly, manufacturing means stable, high paying jobs for millions of U.S. taxpayers, and these jobs depend directly on the current and future competitiveness of the U.S. manufacturing sector in comparison to our trading partners. Trading partners which possess national manufacturing strategies which aim to boost their competitiveness. The U.S. is competitive in manufacturing today; the goal is to increase our competitiveness for future growth in an increasingly aggressive global environment.

There are many recently published strategic plans, studies, reports and roadmaps on U.S. manufacturing, all which focus recommendations on structural barriers, emerging technologies, infrastructure partnering, or economic preservation models as vital components that lead to revitalizing, reshoring, or expanding U.S. manufacturing capability. By structural barriers, I refer to tax policy, environmental regulations or export controls. Other well defined recommendations include increased R&D investment in advanced manufacturing, access for Small and Medium Enterprises to advanced modeling and simulation capabilities, development of regional clusters of shared manufacturing facilities (Industrial Commons) and infrastructure needs for commercial scale up. My position is that developing a competitive manufacturing sector requires a national manufacturing ecosystem that simultaneously addresses structural limitations, investments and bridging the gap to efficient scale up. Given the multitude of existing strategies, what is required is a balanced approach that sets priorities among these

mechanisms with the single goal of a competitive American manufacturing ecosystem, an ecosystem that proves fertile enough to grow and retain domestic manufacturing capacity.

The Administration is actively pursuing advanced manufacturing as vital to the future competitiveness of the U.S., enabling next generation technologies and markets. The President's Council of Advisors on Science and Technology (PCAST) concluded within its 2011 "Report to the President on Ensuring American Leadership in Advanced Manufacturing" that the Nation's long-term ability to innovate and compete in the global economy greatly benefits from co-location of manufacturing and manufacturing-related R&D activities in the United States, and resulted in the establishment of the Advanced Manufacturing Partnership to pursue a private-sector response to Federal government efforts. In March of 2012, the National Science and Technology Council, continuing the themes from the PCAST Report, published the *National Strategic Plan for Advanced Manufacturing* with five recommendations that guide Federal programs and activities in support of advanced manufacturing research and development. In support of these recommendations, the President proposed a "National Network for Manufacturing Innovation" (NNMI) as a series of 15 public-private partnerships designed to accelerate innovation by investing in industrially-relevant manufacturing technologies. The Defense Department is leading the development of a pilot institute that will both develop and scale up new, innovative manufacturing capabilities and demonstrate the institute concept in support of the full network.

Turning to the issue of national security, Undersecretary of Defense Frank Kendall stated earlier this year that "Essentially, the industrial base is part of our force structure and we have to treat it like it is," acknowledging the vital role of defense manufacturing and the requirement for guidance. The 2012 Defense Strategic Guidance clearly defines priorities built upon exploiting our technological advantage while operating within a reduced budget environment. This guidance emphasizes presence in the Asia Pacific, increases agile response capabilities, and maintains European commitments. These priorities are enabled by advanced technology for the warfighter, including advanced electronics, lightweight materials, and reduced size, weight and power for a broad range of defense systems. The DoD recognizes these technological advantages are provided through advanced manufacturing technologies, which is why the FY13 Defense Budget highlights manufacturing R&D as a priority:

“ [DoD] Invests in long-term scientific and technological innovation to ensure that the Nation has access to the best defense systems available in the world. High-priority research and development areas include: advanced manufacturing, cybersecurity, and autonomous systems.”

However, these priorities are set within a reduced budget environment. The FY13 President’s Budget shows total U.S. defense spending dropping roughly 22% over the period 2010-2017, before any additional sequestration reductions. This means that defense affordability concerns will remain dominant, with pressures on acquisition costs that will defer modernization and increase sustainment requirements. However, acquisition and sustainment are both supported by the same industrial base, which is threatened by defense reductions. This defense industrial base, which at the lower tiers is predominantly small and medium sized with commercial and defense customers, possesses a variety of specialized manufacturing capabilities required to produce or sustain defense systems, and must be properly managed to ensure readiness and avoid obsolescence. The ideal characteristics of the industrial base sought by the DoD are technologically vibrant, highly capable, and financially fit. As such, the Defense Department is a unique beneficiary of a highly competitive manufacturing base, because of the reinforcing nature of an economically healthy manufacturing ecosystem on the shared industrial base.

Turning to manufacturing R&D for national security, the Defense Department has a single program that is chartered under USC Title 10 to develop and transition manufacturing processes and fabrication required for the production and support of Defense Systems: The DoD Manufacturing Technology (ManTech) Program. For over 50 years, the ManTech Program has been department’s investment mechanism for staying at the forefront of defense essential manufacturing capability, which has also been spun-off to feed much of the U.S. commercial technology advances, including semiconductors, composites, turbine engines, and machine tools. Benefits are not limited to technology discovery, but include substantial cost savings. The OSD, Navy and Air Force Manufacturing Technology (ManTech) programs have been recently recognized by Vice Admiral David Venlet for their outstanding support to the Joint Strike Fighter (JSF) program. With a combined investment of less than \$20M, their partnership has helped produce four manufacturing technologies that are projected to reduce F-35 program costs by \$1.1 billion over 30 years of production.

OSD ManTech is leading the development of a pilot institute which will not only lead to a more competitive sector in “Additive Manufacturing”, but also prepare the groundwork for a broader network of institutes, which can flourish into a vibrant, sustaining source of technologies, manufacturing tools, goods and products. This domestic capability will only grow if the national manufacturing ecosystem is structurally sound and fertile with opportunity. The National Manufacturing Competitiveness Strategy can provide this ecosystem, lowering barriers, encouraging investment and leveling the playing field with our trading partners.

Our endorsement of this discussion draft language is based upon the stated objectives, board membership and duties, and the lengthy list of topics to be considered during the comprehensive analysis and strategy development. However, we note that while the comprehensive analysis under Section 4, paragraph (c) does consider previously published reports, plans and recommendations, the entirety of these topics would seem to require considerable effort, and no staff, budget, or board support is specified. Obviously, resources will be required commensurate with the expected level of effort, and not be left to the private or public sector board members.

Chairman Mack and members of the Committee, I’m honored to have had this opportunity to provide you a defense industry perspective on the importance of developing the needed national ecosystem to increase U.S. manufacturing sector competitiveness. Speaking for the NDIA membership, I thank you all for actively supporting U.S. manufacturing policies.