



POSITION STATEMENT

JOB GROWTH THROUGH MANUFACTURING INNOVATION

*Adopted by the IEEE-USA
Board of Directors, 11 Nov. 2011*

The United States' national and economic security, and its ability to create wealth and new jobs, depends upon a robust and adaptive domestic manufacturing industry. Each year, the U.S. manufacturing sector generates more than \$1.5 trillion worth of goods, accounts for more than half of total U.S. exports, and provides millions of jobs¹ Manufacturing also accounts for \$190 billion of the research and development, and the resulting productivity growth, in the U.S. economy.²

For the United States to remain vibrant as a global economic and technological leader, it must preserve and grow the manufacturing sector. The United States needs a vision for generating high-value jobs, including goals and metrics for traditional and environmentally-friendly manufacturing success. For example, vibrant regional innovation centers and smart networks of lean and efficient small manufacturers will strengthen the U.S. manufacturing sector. Leadership in frontier research and new process technologies is essential for job growth through manufacturing and innovation.

To accomplish these objectives, IEEE-USA recommends that federal, state and local governments:

- Legislate to provide access for small- and medium-sized manufacturers to the capital necessary to make investments and upgrades--for example, using low interest loans or tax incentives
- Encourage public-private partnerships to invest in the developing technology for product sectors where opportunities exist to create capital intensive jobs with high productivity levels
- Direct agencies to coordinate their activities to maximize synergy and minimize overlap
- Develop metrics to determine the value added by programs supporting manufacturing research and development

- Mitigate regulations and policies that motivate U.S. companies to move manufacturing offshore.
- Legislate incentives for U.S. companies to innovate and turn new concepts into onshore manufacturing operations
- Support manufacturing R&D programs, such as NIST's Manufacturing Extension Partnership, and the Technology Innovation Program
- Eliminate trade imbalances, dumping practices, and currency manipulation that damage the U.S. manufacturing sector
- Institute strong incentives for rapid and efficient technology transfer to industry.

This statement was developed by the IEEE-USA Research and Development Policy Committee and represents the considered judgment of a group of U.S. IEEE members with expertise in the subject field. IEEE-USA advances the public good and promotes the careers and public-policy interests of the more than 210,000 engineers, scientists and allied professionals who are U.S. members of the IEEE. The positions taken by IEEE-USA do not necessarily reflect the views of the IEEE or its other organizational units.

References

1. For general information on manufacturing trends and the importance of manufacturing to the U.S. economy, see:
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 - The Future of Manufacturing, Hearing of the House Committee on Science and Technology, U.S. Congress, 17 March 2010. On-line at: <http://science.house.gov/hearing/full-committee-hearing-future-us-manufacturers>
 - Global Manufacturing Competitiveness Index, Council on Competitiveness (Deloitte Study), June 2010. On-line at: <http://www.compete.org/publications/detail/1378/2010-global-manufacturing-competitiveness-index>
 - Ignite 2.0: Voices of American University Presidents and National Lab Directors on Manufacturing Competitiveness, Council on Competitiveness, June 2011. On-line at: <http://www.compete.org/publications/detail/1731/ignite-2.0/>
 - A Manufacturing Renaissance: Four Goals for Economic Growth, National Association of Manufacturers, June 2010. On-line at: <http://www.nam.org/~media/AF4039988F9241C09218152A709CD06D.ashx>
 - Report to the President on Ensuring U.S. Leadership in Advanced Manufacturing, President's Council of Advisors on Science and Technology, Executive Office of the President, June 2011. On-line at:

<http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-advanced-manufacturing-june2011.pdf>

2. U.S. Business Report 2008 Worldwide R&D Expense of \$330 Billion: Findings from the New National Science Foundation Survey," *National Science Foundation, Info Brief*, May 2010.