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How the Government Refocused on Innovation and Competitiveness

by Debra Schiff

Innovation and competitiveness aren't just empty buzzwords in Washington these days — they've garnered very real support from Congress and the White House, and have inspired a number of promising legislative initiatives. If Congress can capitalize on building momentum behind these efforts, new legislation designed to help the United States maintain its technological leadership edge could be sent to the President during this session of Congress.

In the Senate, a sweeping package called Protect America's Competitive Edge Act (PACE), and the National Innovation Act await action. And in the House, Democrats have unveiled their innovation agenda, with House Republicans expected to unveil their own shortly. In his State of the Union Address on 31 January, President Bush outlined his American Competitiveness Initiative, designed to spur U.S. innovation and better equip the nation to compete in the global marketplace. With such broad support, it seems likely that some measure of legislation related to innovation and competitiveness will survive the legislative process. But, in a time of partisan wrangling over issues like Iraq, port deals and wiretaps, how did such a unifying issue come to the fore?

The Reports that Galvanized the Innovation Movement

Two key reports laid the groundwork for the proposed legislation and the president's initiative. In Part I of this two-part series, we will examine Innovate America, a report that emerged from the Council on Competitiveness, a Washington think tank dedicated to keeping national competitiveness issues on the front burner. (IEEE-USA is one of the Council's 25 national affiliates.) Part II will look at the National Academies' report, Rising Above the Gathering Storm. When presented to Congress, these two documents heightened lawmakers' awareness that America is increasingly falling behind on moving ahead. And that the reports the country's top minds in business and education authored these reports didn't hurt.

Because the various measures and initiatives focus on improving America's competitiveness and innovativeness via math and science education, as well as investments in research and development, IEEE-USA is paying close attention to the legislative activities around them and corresponding with key decision-makers to urge them to take advantage of the favorable climate to pass legislation sooner, rather than later. Russ Lefevre, IEEE-USA's vice president for Technology Policy, has been visiting lawmakers to let them know the key points IEEE-USA's members wish to see in the final bill(s):

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Continuing-education tax breaks

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A permanent, doubled research and development tax credit

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A doubled R&D budget for the National Science Foundation

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An increased R&D budget for the department of energy

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All the education improvements recommended in both Innovate America and Rising Above the Gathering Storm

“IEEE-USA thinks the continuing education credit is very important. When the half-life of an engineer is five years, it’s quite clear that the days when an engineer could spend his or her career shepherding a specific computer program are long gone. You must be able to move from one discipline to another discipline, and you must be able to do it quickly,” says Lefevre.

Innovate America

The movement to raise awareness about America’s need to keep innovating to hold onto its competitive edge is not new. Back in the mid-1990s, The Council on Competitiveness coined the phrase “innovation ecosystem” as a way to communicate the network of connections that link together all the people and organizations that produce innovations, from scientists and engineers to entrepreneurs and corporate managers and even federal, state and local policy-makers. Deborah Wince-Smith, president of The Council on Competitiveness, said: “We call it an ecosystem because all of the players are interdependent and each has a unique role to play in the innovation process.”

“Because of its strength and diversity, America’s innovation ecosystem continues to lead the world. We are better than anyone else at translating new ideas into marketable products and services. But the competition is increasing, and we will need to work even harder to maintain our historic advantage,” she cautioned.

Wince-Smith said the innovation manifesto, Innovate America, was born out of a need to better understand the nature of innovation’s evolution. “What really galvanized the launch was that not only are global forces accelerating in terms of the competition and the emergence of high-skilled, low-cost innovators, but also that the process of innovation itself has begun to radically change,” she said.

The think tank knew that it needed to understand how innovation has changed and where it is going as a dynamic system for wealth and value creation. In turn, such understanding would lead to a systemic agenda of what the nation needs to do, “not just what the government needs to do, but what the private sector, academia, and the public-at-large need to do to make our country continue to be a place that attracts high-value investment, and where high-value economic activity is performed,” Wince-Smith commented.

After a year of research and an interim report that turned more than a few heads, the Council released Innovate America in December 2004. Senators John Ensign (R-Nev.) and Joe Lieberman (D-Conn.) introduced the National Innovation Act in December 2005, which takes the the report's recommendations and turns them into legislation. “The Ensign and Lieberman bill has as much of Innovate America in it as it could,” said IEEE-USA's Lefevre. More than 25 senators from both parties have signed on to it so far, including Senators Jeff Bingaman (D-N.M.) and Lamar Alexander (R-Tenn.), who crafted the PACE legislation.

The national innovation agenda (see Figure 1), as set forth in the report, is divided into three primary categories:

1.
Talent
2.
Investment
3.
Infrastructure

Figure 1 - National Innovation Agenda

(Click to enlarge)

Next Steps

Looking ahead, Wince-Smith believes that the United States is on the cusp of a manufacturing revolution. “The concept that manufacturing is dirty, dumb, dangerous and disappearing is really not correct. We need to accelerate the talent, workforce, innovation and employment systems that migrate our economy and industry into the 21st century manufacturing environment — where design, use of high-performance computing, and the logistic supply chain are brought together for new value creation,” she says.

Wince-Smith also sees the energy challenges of sustainability, the need to have a balanced portfolio, and reducing foreign dependency as high priorities. “We know companies are making location decisions based on the cost and reliability of energy. There’s a real tipping point on energy. That relates to manufacturing too, with the cost of the reliance on petroleum. Energy challenges and manufacturing opportunities are all converging, so it’s a real exciting time.”

Check back for Part II of this series, on the National Academies report *Rising Above the Gathering Storm*, in next month's issue of IEEE-USA Today's Engineer Online.

For more information on the competitiveness issue, visit IEEE-USA's resource page at: www.ieeeusa.org/policy/issues/innovation.