Legislation boosts U.S. manufacturing competitiveness

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The U.S. manufacturing sector received a boost as it transitions to a globally competitive marketplace under a new Senate bill introduced on August 6. The legislation will take the same supercomputing systems and applications used almost exclusively by Fortune 500 companies and make them scalable, accessible and affordable to small- and medium-sized companies.

This initiative, known as "Blue Collar Computing" was unveiled in legislation co-sponsored by Senators George Voinovich (R-Ohio) and Herb Kohl (D-Wisconsin). Representative Tim Ryan (D-Ohio) also introduced a companion bill in the U.S. House on August 6. Blue Collar Computing is an innovative program created by the Ohio Supercomputer Center (OSC).

"This legislation will help small businesses harness the cutting-edge, supercomputing technology to help them regain competitive footing in the global market," said OSC executive director Stan Ahalt. "The benefits reaped from Blue Collar Computing will result in a full-spectrum surge of innovation and scientific advancement."

S. 1948 and HR 3466 authorize up to $25 million per year for five years for the U.S. Department of Commerce to create up to five Advanced Multidisciplinary Computing Software Centers across the country. The proposed centers will institute collaborations between organizations with strong economic development credentials in supercomputing and small businesses/manufacturers seeking to employ technology to maximize performance.

Specifically, the centers will:

- Assist with the transfer of new technologies from federally funded projects.
- Provide new supercomputing technologies to small businesses and manufacturers.
- Identify business needs and create repositories of modeling software.
- Adapt software packages that will run efficiently on supercomputing systems.
- Provide small businesses and industries with the same innovative advantage as large firms.

Eligible, organizations must meet a set of criteria, including but not limited to:

- Links to state-funded schools and universities with recognized expertise in specific industries.
- A partnership history with small businesses and manufacturers.
- Experience in educating organizations on use of these technologies.

Ahalt highlighted the substantial economic benefits of supercomputing technologies for industries large and small. Computer technologies provide companies with innovative tools that allow for the virtual development of new and improved products, such as cars, pharmaceuticals and financial products. Virtual modeling and simulation also provide companies with a competitive edge through improved manufacturing process design to bring products to market quicker, reducing development time, cost and labor.

Simulation makes choosing between alternative processing methods far easier. Better analysis and documentation of capabilities helps with efficiency. Improved factory and workflow layouts increase productivity. All of these factors can dramatically improve a company's bottom line and increase its competitive edge in the global marketplace.

"Similar to the time when desktop computing was considered the primary workhorse for industrial productivity, today's workhorse is supercomputing," Ahalt said. "This legislation will help bring us closer to that goal by democratizing supercomputing for companies of all sizes."

About OSC

Celebrating its 20th anniversary in 2007, the Ohio Supercomputer Center is a catalytic partner of universities and industries, enabling Ohio to successfully compete for research and business opportunities. Funded by the Ohio Board of Regents, OSC provides a reliable high performance computing and networking infrastructure and stimulates computational research and education. To learn more, visit http://www.osc.edu.