



NCSA part of effort to help manufacturers tap power of supercomputers

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Potato chips that stay on conveyor belts instead of flying around the manufacturing plant. Energy efficient diesel engines. Safer pesticides. Environmentally friendly product packaging. New cell phone technologies. Better airplane wings. Improved pharmaceuticals. These are just a few of the areas in which the use of supercomputers for modeling, simulation, and analysis has helped manufacturers improve products and cut costs.

But few small and medium U.S. manufacturing enterprises (SMEs) are tapping into the potential of supercomputing. Studies by the Council on Competitiveness and others show that the barriers to entry are resource driven; in particular, a lack of a support network and internal expertise to move up the learning curve. On March 2, [The Midwest Project for SME-OEM Use of Modeling and Simulation](#) was launched at a signing ceremony in Washington, D.C. The project is part of the National Digital Engineering and Manufacturing Consortium (NDEMC) that is being developed for the purposes of promoting adoption and advancement of modeling, simulation, and analysis in U.S. manufacturing and the related supply chain.

NCSA and private corporations are partnering with the [U.S. Economic Development Administration](#) (an agency within the U.S. Department of Commerce) and non-governmental organizations in a nearly \$5 million effort to provide education, training, and access to supercomputing resources so that SMEs can develop modeling and simulation skills.

"This is a large-scale, public-private partnership," says Merle Giles, director of NCSA's [Private Sector Program](#). "Private companies are backing this project and it has the attention and involvement of a U.S. agency not previously involved with high-performance computing. That's exciting for the HPC community, especially those of us who work with the private sector."

NCSA will provide trainers and domain experts to train staff at select companies in HPC, modeling, and simulation.

Other project partners include the [Ohio Supercomputing Center](#), the [Council on Competitiveness](#), the [National Center for Manufacturing Sciences](#), and [Purdue University](#). Industrial partners are [Deere & Co.](#), [General Electric](#), [Proctor & Gamble](#), and [Lockheed Martin](#).

"Most of the five companies involved are NCSA PSP partners," notes Giles. "We already have relationships with those companies, so that will allow us to get up to speed quickly on this project."

Through the NDEMC and the Midwest project, collaborators look forward to accelerating innovation through the use of advanced technology. The goal is greater productivity and profits for all players through an increase of manufacturing jobs remaining in and coming back to the United States, and increases in U.S. exports.

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