VA Center Aims To Help U.S. Reclaim Manufacturing

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DISPUTANTA, Va. (AP) — Tucked away just miles from the railroads that for years have transported goods made in Virginia to the rest of the world, a recently opened research facility in Prince George County is bringing together universities and industry in an effort to help the state — and the country — regain its manufacturing roots.

The work being done at the Commonwealth Center for Advanced Manufacturing will be used for production that has come a long way from the textiles and furniture plants that once populated southwest and Southside Virginia. The targets now are jet engines, laser printer cartridges and military submarines.

"Most people's image of a manufacturing facility is one of a hot, dirty, undesirable environment in which to work. Historically that may have been the case, but in today's modern factory, that is in fact exactly the opposite of what it is," said Dave Lohr, executive director of the 62,000-square-foot facility, which features natural lighting, streamlined glass and metal with a sheen like that of the latest electronic gadgets.

With office space, meeting rooms, labs and a large, cavernous area to house and test the latest high-tech equipment, the center completed in September is conducting research for a group of manufacturing companies under a partnership with Virginia Tech, Virginia State University and the University of Virginia. The consortium supporting the center's research through equipment, funding and expertise includes Rolls-Royce, Cannon, Newport News Shipbuilding, Siemens and others.

Much of the research that will be done at CCAM focuses on surface engineering and advanced products and components, as well as manufacturing automation and simulation.

The center is currently involved in 10 projects valued at $1.7 million that includes both generic research that could apply to many of the 14 industry members, and direct research that addresses specific topics raised by one or more of the companies. Lohr said he hopes the center ultimately will be involved with between $10 and $15 million in research each year.

One of the first projects being conducted at the center looks at improving the technology used to coat surfaces with anti-heat or friction material using a robotic arm that can spray those coatings on metals. Another is studying human performance in manufacturing operations. As part of those research efforts, the center also will have a visualization lab that will allow engineers to do three-

dimensional modeling.

CCAM is a "cornerstone of innovation" that "provides a place for researchers and industry partners to collaborate on the innovative technologies of tomorrow," said Will Powers, executive vice president and CFO of Rolls-Royce North America, which donated the land for the building on its Crosspointe campus, where it makes components for jet engines.

Construction of the building, which is owned by the University of Virginia Foundation, was financed with $11 million from state Recovery Act bonds, a $4 million federal grant and a $2.5 million grant from the Virginia Tobacco Indemnification and Community Revitalization Commission.

Those involved say the center allows industry and universities to solve real problems and gives companies a low-risk environment in which to examine new ideas.

"The factory floor today isn't designed for experimentation, it's designed for efficient production. When you're interrupting that with experiments, then you disrupt the intended purpose of the factory," Lohr said. "Having an independent location where you can do research and do it at the same speed as you would at a factory, it takes that risk out of the equation."

Lohr said when you're making really expensive parts, "you don't want to send one to the lab and cut it up after you've invested all the money making it — you want to sell it."

Similar public-private collaborations are taking place across the world.

In the U.S., BMW partnered with Clemson University in Greenville, S.C., for research that focuses on automotive technology, Lohr said. And President Barack Obama announced a $30 million federal investment in a manufacturing innovation institute in Youngstown, Ohio that will bring together manufacturing firms, universities, community colleges, and non-profit organizations from Ohio, Pennsylvania and West Virginia.

From a workforce standpoint, Barry Johnson, senior associate dean at the University of Virginia's School of Engineering and Applied Science, said the collaboration allows universities to better understand what types of jobs and skills needed in the advanced manufacturing workplace, ultimately putting the U.S. in a better position to attract factories that may have otherwise gone to areas overseas.

"Companies have the ability to put these businesses anywhere in the world, and they're going to put them where those factors are favorable to them," Johnson said. "We in the U.S., we can compete with China, we can compete with India, we can compete with other parts of the world that have low labor rates."

Lohr agrees.

"The opportunity to reclaim manufacturing as a viable industry in the United States is there for the taking, if you do it with advanced manufacturing processes," he said. "While it may not create jobs as you might have had in a classic factory, what it is creating is a very high-value job."