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Research News

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A VISION OF REVITALIZED INDUSTRY: DARPA'S DR. MICHAEL J. KELLY JOINS GEORGIA TECH'S MANUFACTURING CENTER

The newly-appointed director of Georgia Tech's Manufacturing Research Center brings to his job a wealth of industrial experience -- and some concrete ideas on how the United States can revitalize its faltering manufacturing sector.

Before accepting the position at the Georgia Institute of Technology, Dr. Michael J. Kelly served as director of the Defense Manufacturing Office within the Defense Advanced Research Projects Agency (DARPA), the high-technology research branch of the U.S. Department of Defense.

He also served as manager of IBM's Manufacturing Technology Center in Boca Raton, Florida, where he began company support for education programs in computer-integrated manufacturing systems (CIMS) at colleges and universities. Georgia Tech initiated such a program in 1982 as a result, and Kelly says the institution's willingness to foster change helped lead him to accept the new position.

"People are more open to change at Georgia Tech, and there is an entrepreneurial spirit not found to the same degree at other institutions," he said. "I think Georgia Tech has an environment that makes change easier -- and



Dr. Michael J. Kelly, new director of Georgia Tech's Manufacturing Research Center, poses with the new building. (Color/B&W Available)

FOR MORE INFORMATION:

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I think change is needed in the manufacturing community."

The Manufacturing Research Center was established to focus interdisciplinary research expertise on advanced manufacturing technology.

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The initial research is directed at technologies of interest to its five supporting members: IBM, Digital Equipment Corporation, Motorola, the Ford Motor Company Electronics Division and the U.S. Army MICOM Manufacturing Technology Division.

Established in 1987, the Center received a \$15 million grant from the State of Georgia and officially opened its new 120,000 square foot laboratory and office building November 8.

Kelly believes the United States can have a healthy manufacturing community through a new spirit of cooperation and increased attention to government research investments in dual-use technology: areas with both military and industrial returns.

"We are militarily secure today, but we are becoming economically insecure," Kelly warned. "If we don't solve the problem of our eroding industrial base, eventually we will not be militarily secure because our military strategy is to win with technology. If we don't control the technology, we don't have a viable military strategy."

"The United States absolutely can have a healthy manufacturing sector," Kelly said. "But it will require strong cooperative efforts on the part of industrial sector people, and a different strategy in the investment of government funds."

Nearly half of the \$150 billion a year spent on research in the United States goes into projects for the Department of Defense or the federal research laboratories, he noted.

"Almost none of that is focused on products that improve our competitiveness," Kelly added. "There is a major need to exploit technology to enhance the industrial base. There is a further need to strengthen the manufacturing sector to meet global competition."

The United States retains competitive technological strengths in electronics, computer technology, software, telecommunications and other areas. Kelly says manufacturers should capitalize on those strengths to develop products which will meet future needs, such as consumer electronic products which integrate home, business and education applications.

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An educated work force is also critical to maintaining the industrial community, and Kelly says universities must help by broadening their engineering programs so graduates can take a systems approach when dealing with manufacturing issues.

"If you are going to have quality products, you must have quality people," he added. "We will not succeed at revitalizing our manufacturing base unless we focus on the education and training of the new people coming into the work force. And since 75 percent of the people who will be in the work force in the year 2000 are working today, attention must likewise be given to their educational needs."

Universities should encourage increased interaction among different disciplines -- and between university and industry researchers, he urged. Such interactions will benefit industry, allowing it to influence goals by providing industrial perspectives to the academic community.

At the Center, Kelly joins Associate Director for Operations J.C. Campbell and Associate Director for Technology Dr. Laura Turbini.

Kelly has served on the faculty of the New Jersey Institute of Technology, Stanford University, the University of Detroit and Marist College. He holds a B.A. degree from Marist College, a B.E.E. and M.E.E. from Catholic University and a Doctor of Engineering degree from the University of Detroit.

At DARPA he was responsible for the semiconductor research consortium Sematech, along with research efforts in high definition displays, X-ray lithography and other advanced manufacturing equipment, infrared focal plane arrays and the Microwave and Millimeter Wave Monolithic Integrated Circuits Program.

NOTE: A news release is available on the U.S. Army MICOM, the newest MARC member.