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**FORD ELECTRONICS DIVISION JOINS EFFORTS
TO BOOST U.S. ELECTRONICS INDUSTRY
IN MANUFACTURING RESEARCH CENTER**

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Photography Available

The Ford Motor Company Electronics Division has become the fourth member of Georgia Tech's new Manufacturing Research Center (MARC). The company joins Motorola, IBM and the Digital Equipment Corporation in supporting the Center's efforts to develop improved manufacturing processes for the U.S. electronics industry.

Ford's commitment will provide \$1 million in additional funding for research projects of interest to the Center members. The MARC has already begun research projects in three areas: packaging and interconnection of electronic components, processes and materials for the electronics industry, and factory systems for electronic manufacture.

The Fuller E. Callaway, Jr. Manufacturing Research Center was established in 1987 to focus interdisciplinary research expertise on advanced manufacturing processes designed to help U.S. companies be more competitive in world markets. With a \$15 million grant from the State of Georgia and support from the member companies, Tech is developing and equipping a 120,000 square foot laboratory and office building to house the Center programs.

The four-story building is now under construction, with completion scheduled for October of 1991.

Mr. Edward H. Abbott, project manager for University Research in Electronics Manufacturing, presented Ford's first check to Georgia Tech President Dr. John Patrick Crecine at a noon ceremony on September 25.

"Ford Motor Company and its Electronic Division look forward to becoming an active participant and sponsor of Georgia Tech's Manufacturing Research Center," said Abbott. "We plan to take a proactive role in the affiliates program, as well as individual electronics manufacturing research efforts within the Center. I am confident that both Ford and the MARC will benefit from this relationship."

The company was welcomed to the Center by Dr. Michael Thomas, executive vice-president of Georgia Tech, and by J.C. Campbell, acting director of the Center.

"We welcome the Ford Electronics Division to the Center," said Campbell. "Ford brings substantial expertise to the Center efforts, and will help diversify the research to address issues affecting this important area of the U.S. electronics industry."

Though its initial focus is on electronics manufacturing, the Center ultimately plans to study manufacturing issues affecting other key U.S. industries, Campbell said. The Center's initial research efforts will include interconnection technology, new materials, process technology, modeling and simulation, automation and robotics, knowledge-based systems and factory systems integration.

Research projects are already underway in the following areas:

* **Packaging and Interconnection Technology:** Projects include (1) Studies of the micromechanics of surface mount solder joints using various alloys, and characterization of failure mechanisms under various thermal, mechanical, chemical and environmental stresses, (2) Work on solder flux characterization and evaluation focused on a new test for screening fluxes for corrosion, and (3) Research into multi-chip packaging substrates.

* **Materials and Processes:** Projects include (1) Work on polyimide films characterization and polymerization monitoring, (2) Efforts to predict the performance of polyimides for electronic and microelectronic applications, and (3) Studies of electrically conducting polymers.

* **Factory Systems:** Projects include (1) Development of a workstation for a printed circuit assembly automated component insertion/insertion operation, (2) Efforts to define the thermal-mechanical issues in the design of multi-layer boards, and (3) development of advanced computer-aided-design tools for printed circuit board design.

The Center's research program will build on other electronics and manufacturing-related research at Tech. These other programs include the Material Handling Research Center, the Computer Integrated Manufacturing Systems Program, and the Microelectronics Research Center.

Ford's support will be received over a five-year period.

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