VHSIC program pushes submicron ICs

The VHSIC program will power the move to submicron IC technology, according to The VHSIC Program's Impact on the Commercial IC Market, a technology impact report from Electronic Trend Publications.

The 125-page report describes the Pentagon's VHSIC program phases 0, 1, 2, and 3 and the long-range military applications that will benefit from advanced IC and system design. The overriding opinion is that the critical nature of future weapon system designs and the global defense scenario calls for submicron productions devices to be available by 1990.

The program should also have a direct impact on the commercial world for high-speed, high-performance VLSI ICs and will provide the funding and application incentive to bring about design and production breakthroughs.

Phase 2 of the VHSIC (short for very high-speed IC) program has the goal of using .5 μ geometries and 100-MHz minimum clock speeds. The program's impact on submicron IC technology is comparable to Japan's fifth-generation computer work on computer architecture, according to the report. VHSIC breakthroughs could catapult the US into the lead in the IC race.

The report also profiles all the prime contractors and their subcontractors involved in all phases of VHSIC.

Research and written for the senior system designer/planner, the report is available from ETP for $985. Contact ETP, 12930 Saratoga Ave., Saratoga, CA 95070, (408) 996-7416.

Purdue to develop novel semiconductor

Purdue University has been selected by the Department of Defense to head a $10.6 million research project aimed at developing new semiconductor devices.

The three-year project will be a cooperative effort among Purdue, University of Notre Dame, North Carolina State, MIT, Brown, and Harvard. The program's goal is to develop a new class of semiconductors with unique properties and applications; specifically, the focus will be on the heterostructure of diluted magnetic semiconductors.

Scientists plan to rearrange and combine semiconducting substances through a process called molecular-beam epitaxy. Cadmium telluride is a well-known semiconductor. By growing it at the molecular level and introducing a magnetic element, such as manganese, they hope to produce a new substance with unique magnetic, optical, and electrical properties.

The growth of semiconductors using this technique was evident a few years ago with the emergence of two-dimensional structures such as epitaxial films, quantum wells, and superlattices—all of which were based on diluted magnetic semiconductors.

D&T welcomes new editors

D&T has three new editors: Managing Editor Nancy Blackmon, Standards Editor Rod Tulloss, and DATC Newsletter Editor Jere Sanborn.

Blackmon comes to D&T with four years experience in Computer Society publications. Most notable was her work on the IEEE centennial issue (Oct. 1984) of Computer, which later won an award. She has also worked as a technical editor for government contractors whose clients included the US Air Force, Environmental Protection Agency, and Defense Advanced Research Projects Agency.

Tulloss is a supervisor at AT&T Engineering Research Center, where he has been since 1971. His work has included initiating the study and beginning tool development for the first system application of scan design and initiating development of the first AT&T automated sequential circuit test generation system for operation with CAD. He holds a PhD in logic and methodology of science. He is widely published and was coeditor of the TTTC Newsletter from 1981 to 1983, for which he won an award. He is also interested in poetry and wild mushrooms.

Sanborn is a senior engineer in the design methodology and design assurance department of IBM's Engineering Design System in the General Technology Division. He has been with IBM since 1959 and has worked in cryogenic logic design, for which he received an invention award; in logic synthesis and minimization; and in design automation systems. Sanborn has been a presenter, panelist, session chairman, and referee for the Design Automation Conference. He has been a member of the DATC since 1981.