

The World's First

0.25-micron FPGA Family

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Leading the logic industry with the most advanced semiconductor manufacturing processes, Xilinx, in partnership with United Microelectronics Corporation (UMC) has developed a new 0.25-micron FPGA process technology. This leading-edge technology is the basis of our new, very-high-density, XC4000XV FPGA family. The first device in this family, the XC40125XV, incorporates 25 million transistors

in a single piece of silicon — more than three times that of today's highest performance microprocessors, such as the Intel Pentium II (with 7.5

million transistors). Samples of the XC40125XV — the industry's largest FPGA device — are available now, and production shipments will begin early in the first quarter of 1998.

Technology Made Possible Through Partnerships

For its 0.25-micron product development, Xilinx partnered with four of its suppliers — Cadence Inc., DuPont Photomasks Inc. (DPI), Dai Nippon Printing (DNP) and UMC.

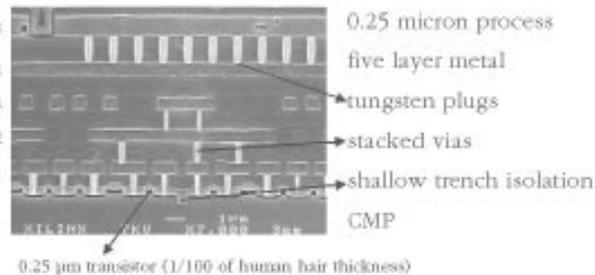
Xilinx partner **Cadence** provided the physical verification tools necessary to create this new technology. "With 25 million transistors on an FPGA, Xilinx is providing a dramatic increase in capability for its customers," said Bill Portelli, vice president and general manager of the Cadence Custom IC Business Unit. "Xilinx turned to Vampire, Cadence's state-of-the-art hierarchical physical verification tool, to verify the correctness of the world's most complex FPGA device. First-pass working silicon is a testament to excellent IC design, a great tool, and impressive teamwork between Xilinx and Cadence on this project."

Xilinx partners **DuPont Photomasks** and **Dai Nippon Printing** met the challenge of developing a set of photomasks that would unite the Xilinx design specifications with UMC's manufacturing process technology. The extraordinary density of the larger Xilinx FPGA die required DPI's extensive technical expertise to meet the demanding 0.25-micron design and manufacturing specifications. DPI also drew on the strengths of its global network to manufacture the photomasks, with data collection and coordination occurring in Santa Clara, Calif., and actual production taking place in its Ichon, Korea, facility.

Xilinx partner **UMC**, based in Hsin-Chu City, Taiwan, is Taiwan's first private sector manufacturer of integrated circuits. UMC operates two wafer fabs in the Science-Based Industrial Park in Hsin-Chu City. "As the first dedicated foundry to market with 0.25-micron technology, we lead the industry in this next generation of processing. The UMC 0.25-micron CMOS process with dual-gate oxide and five-layer metal is a very demanding and rugged technology that will enable end products with better integrity, yields, quality, and performance," stated Don Brooks, UMC board member. "Furthermore, UMC offers Xilinx and other customers additional advanced technology, including low-voltage and mixed signal capability. With our progress in 0.18-micron technology, we will continue our leadership in process introductions."

"Our close partnerships with industry-leading manufacturing partners has directly aided our delivery of advanced processes," said Wim Roelandts, Xilinx president and chief executive officer. "Furthermore, it's more than just having access to industry-leading technology in order to deliver on this process. Our unique methods for rapid deployment of new architectures on new processes allows us to bring better products to market faster and, in turn, bolster the success of our customers." ♦

Advanced process technology

0.25 μ