

AMD Launches 90-nm Opteron

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AMD announced today that it has formally opened two new Automated Precision Manufacturing (APM) Innovation Centers located in Austin, Texas and Dresden, Germany.

Advanced Micro Devices Inc. has begun using a 90-nanometer silicon-on-insulator (SOI) manufacturing process.

APM is AMD's patented suite of more than 250 leading-edge fab automation and optimization technologies used to reduce time-to-yield on new technologies and decrease manufacturing costs.

The new centers will be used by AMD manufacturing technologists and software designers to integrate the next generation of APM, version 3.0, into AMD Fab 36, the company's 300 millimeter (mm) wafer manufacturing facility currently under construction in Dresden.

AMD expects commercial shipments of products made using the 90-nm process to begin in the third quarter.

The move saves about 40 percent of the die area compared with the established 130-nm process, and should have a similar impact on AMD's costs until the company introduces 300-mm wafer processing, which is expected in early 2006.

The 90-nm AMD64 is in active pilot mode in Fab 30 and prototype parts are running in systems, Sonderman said. Sonderman added that strained-silicon would be introduced by AMD in the future.

Although details about the first product to migrate to the 90-nm process were not disclosed, a presentation by Thomas Sunderman, a director of manufacturing technology within AMD's corporate manufacturing group, given the day before the Semicon Europa exhibition referred to the AMD64 family of Opteron and Athlon chips and the AMD 64-bit Opteron processor in particular. "There are no plans to migrate the classic Athlon to 90 nm," Sunderman confirmed.

Sunderman said the 90-nm process would be phased in with all the advanced features acquired during previous generations, including copper interconnect, a Black Diamond low-k technology and as an SOI process with the base wafers provided by Soitec SA.

The combination provides a "significant power saving," Sunderman said, adding that details would be revealed when AMD announces 90-nm products.

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