



## Applied Materials Teams with Silicon Genesis to Develop Plasma Implant Doping Technologies

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SANTA CLARA, Calif.--(BUSINESS WIRE)--June 14, 1999--

Two Companies Look to Commercialize Plasma Doping Technologies;  
Silicon Genesis Also Selects Applied Materials' xR120(TM) and Epi  
Centura(R) Systems for Silicon-on-Insulator (SOI) Manufacturing

Applied Materials, Inc. today announced that it is working with Silicon Genesis Corp. (SiGen), a developer and supplier of advanced materials, processes and wafers to the semiconductor industry, to further develop and commercialize plasma doping technologies for ion implantation and other process applications in future chip designs.

"Applied Materials is committed to an aggressive, long-term program in advanced doping technology, including new applications that potentially offer customers advantages in how they create devices," said Dr. Israel Beinglass, managing director and chief technologist of Applied Materials' Thermal Processes and Implant Product Business Group. "We believe that plasma doping has the potential to be an important, enabling technology for several future chip applications. Teaming with Silicon Genesis' experts gives us a strong advantage in bringing this next-generation technology to customers."

The concept of doping in semiconductor manufacturing refers to implanting a carefully controlled number of elements into a wafer to modify certain electrical and physical characteristics of the device. Plasma doping technology takes place in a small volume, single-wafer process chamber whose size and design can be compatible with multichamber-type process equipment. Although in an early stage of commercial development, plasma doping has already been shown to offer potential advantages in throughput and cost because the entire wafer can be implanted at once. In addition to ion implantation, the basic process can be used for other material modification applications in both wafer and device manufacturing.

"We are excited to be working with Applied Materials to commercialize our plasma implant technology," said Francois J. Henley, president and CEO of Silicon Genesis. "Applied's extensive experience in single wafer processing and expertise in bringing new technologies to the industry should help accelerate development of plasma doping and its utilization for a broad range of materials and applications, including SOI film formation."

Separately, SiGen has selected an Applied Materials' xR120(TM) ion implantation system and Epi Centura(R) epitaxial deposition system for demonstrating efficient, cost-effective SOI manufacturing to customers in SiGen's production facility. These systems will form the core of SiGen's qualified process equipment in licensing its Genesis Process(TM) for SOI manufacturing. With SOI technology, a thin layer of silicon dioxide is buried in the wafer to provide an improved base for building leading-edge devices.

"Having Applied Materials' implant and epi systems in a production-type environment should greatly increase SiGen's ability to show the benefits of SOI technology and speed its adoption into mainstream manufacturing," said Henley. "These systems offer excellent production efficiency and processing quality that is critical to producing SOI wafers with the characteristics required for advanced device designs, and at a price that is economically attractive. We believe SOI's ability to increase chip speed and reduce power will ultimately contribute to greater capability in portable computing and communications applications."

Silicon Genesis is an advanced materials company that designs and manufactures plasma immersion ion implantation equipment and offers silicon-on-insulator wafer and process licenses to the semiconductor industry. Silicon Genesis' web site is [www.sigen.com](http://www.sigen.com).

Applied Materials, Inc. is a Fortune 500 global growth company and the world's largest supplier of wafer fabrication systems and services to the global semiconductor industry. Applied Materials is traded on the Nasdaq National Market System under the symbol "AMAT." Applied Materials' web site is [www.appliedmaterials.com](http://www.appliedmaterials.com).

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