



## **ASM and CEA-Leti Partner to Advance Transistor Technologies for 45 nm and Below**

**BILTHOVEN, THE NETHERLANDS, JULY 11, 2006** -- ASM America, Inc., a subsidiary of ASM International N.V. (NASDAQ: ASMI and Euronext Amsterdam: ASM), and CEA-Leti have engaged in a joint development research program (JDP) for the advancement of new front end of line (FEOL) CMOS process technology for nodes at 45 nm and below. The JDP aims to develop sub-45nm epitaxy and epitaxy pre-clean technologies with the goal of finding alternative processing schemes to obtain improved transistor performance.

The project's main objectives are to facilitate development of new advanced transistor and substrate architectures, CMOS technologies and processes involving advanced low temperature epitaxy and epitaxy pre-clean technologies. The companies aim to develop selective and blanket strained silicon processes for recessed and elevated source drain applications and use of SiGe and Ge films to design advanced CMOS channels and substrate schemes. The first phase of research will be conducted on ASM's 200 mm Epsilon tool, migrating to the advanced Epsilon 300 mm tool in later phases.

"CEA-Leti has long been leading process innovation for microelectronics and nanotechnology development, and our work with ASM is a critical aspect of our commitment to develop new architectures and manufacturing technologies for future generation CMOS processes," stated Olivier Demolliens, Nanotec Director at CEA-Leti. "This project with ASM builds on our prior development work around Si and SiGe epitaxial processes with the goal of bringing them to the manufacturing mainstream for forthcoming technology nodes."

Under terms of the program, ASM and CEA-Leti will cooperate to develop and evaluate low temperature epitaxy and hetero-epitaxial processes. Work will be conducted at CEA-Leti MINATEC® research facilities in Grenoble, France.

"Joining with CEA-Leti to further the development of our epitaxy and epitaxy pre-clean processes for future industrial technology nodes gives us access to tremendous resources," said Dr. Armand P. Ferro, ASM's Epsilon Business Unit Manager. "We view CEA-Leti as a

technology leader in the development for advanced transistors. This partnership gives ASM the opportunity to add significant value to the epitaxial products and processes we bring to market.”

ASM's Epsilon series of reactors for epitaxial growth of silicon and SiGe alloys have always been viewed as the front runners of advanced, industrial device development since their introduction many years ago. The current state-of-the-art developments include advanced blanket and selective epitaxial growth processes for recessed and elevated source/drain structures to enable high performance CMOS transistors, as well as the integration of silicon and strained silicon in SOI wafer technologies.

#### ***About CEA Leti***

The CEA (French Atomic Energy Commission), a public organization for technological research, carries out its missions in the domains of energy, information and health technologies and defense, building on the foundations of fundamental research at the highest level. Strengthened by the competence of its 15 000 researchers and collaborators, it is recognized internationally and constitutes a strong source of original ideas for public authorities, institutions and industries in France and in Europe.

Located in Grenoble, CEA Leti (Electronics and Information Technology Laboratory of the French Atomic Energy Commission) is at the leading edge of European research in microelectronics, microtechnology and nanotechnology: it employs nearly 1000 people and deposits around 200 patents per year. With 28 start-ups created or in the course of creation, it is one of the most important partners of the industrial world. Instigator of the MINATEC® pole of innovation, CEA Leti is also one of its principal partners, beside the INP Grenoble (Grenoble Institute of Technology) and the local authorities. Further information on [www.cea.fr](http://www.cea.fr).

*MINATEC® is a registered trademark of the CEA*

#### **About ASM**

ASM International N.V. and its subsidiaries design and manufacture equipment and materials used to produce semiconductor devices. The company provides production solutions for wafer processing (Front-end segment) as well as assembly and packaging (Back-end segment) through facilities in the United States, Europe, Japan and Asia. ASM International's common stock trades on NASDAQ (symbol ASMI) and the Euronext Amsterdam Stock Exchange (symbol ASM). For more information, visit ASMI's web site at [www.asm.com](http://www.asm.com).

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