



NEWS LETTER

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SOITEC AND SCREEN COLLABORATE TO DELIVER ATOMIC-SCALE UNIFORMITY ON 300MM FD-SOI SUBSTRATES

Ability to Mass Produce FD-SOI Substrates Enables Cost-Efficient Fabrication of High-Performance Semiconductor Devices

- **Two industry leaders collaborate to produce atomic-scale uniformity substrates**
- **Maximize FD-SOI production yields to meet worldwide market demand**
- **Top 10 equipment supplier joins FD-SOI growing ecosystem**

San Francisco, Calif. (SEMICON West 2015), July 13, 2015 — Soitec (Euronext), a world leader in designing and manufacturing semiconductor materials for the electronics and energy industries, and SCREEN Semiconductor Solutions Co., a leading manufacturer of advanced systems for the semiconductor industry, have jointly developed a high-volume process to achieve atomic-scale uniformity of ± 5 angstroms across the surface of all 300-mm fully depleted silicon-on-insulator (FD-SOI) wafers. Atomic-level control of SOI substrate top silicon thickness enables an excellent control of transistor geometry, key for fully depleted technology. This collaborative success not only maximizes FD-SOI substrate yields, but also represents another step in strengthening the global FD-SOI ecosystem.

The ability to create uniform layers of channel silicon ensures FD-SOI device performance and optimal electrical characteristics on all wafers surface. FD-SOI technology leverages starting wafers — on which circuits are built — consisting of an ultra-thin layer of top silicon over a thin buried oxide, with extremely tight control of top silicon uniformity to within just a few atoms. These layers form the active layers in the final transistor, and therefore must be as free of defects and as planar as possible.

Using Soitec's Smart Cut™ technology and SCREEN's cost-efficient, proven robust single wafer-cleaner processing equipment compliant with FD-SOI manufacturing requirements, Soitec is able to consistently produce highly uniform FD-SOI wafers and will be able to do it in sufficient volume to meet the global semiconductor industry's market demand. FD-SOI enables high performance and power-efficiency for cost-sensitive processors in mobile, consumer, automotive and networking markets.

“Our strategic partnership with SCREEN enables us to produce ultra-thin FD-SOI substrates that meet chip makers' challenging requirements of atomic level resolution in high volume manufacturing. Our FD-SOI wafers are already qualified by a number of foundries,” said Christophe Maleville, senior vice president of Soitec's Digital Electronics Business Unit. *“We are extremely pleased to see such high support from SCREEN on FD-SOI manufacturing and we are looking forward to finalize our on-going efforts on 14nm FD-SOI node.”*

“SCREEN is proud to collaborate with Soitec on meeting this advanced technical challenge and enabling FD-SOI technology to reach high performance levels,” said Dr. Olivier Vatel, CTO of SCREEN Semiconductor Solutions Co., Ltd. “Our high-productivity cleaning systems are available and ready for the FD-SOI ecosystem. As an industry leader, we will continue to deliver world-class products that contribute to our customers’ market success.”

SCREEN’s single-wafer cleaning equipment, the SU3200, delivers the industry’s best productivity by using a perfect balance of high-speed cleaning capacity and highly stable processing. It has multiple process chambers, allowing each wafer to be treated individually with its own dedicated recipe based on incoming layer thicknesses, the desired surface condition to be achieved and a predictive etch model. Key advantages of the system include highly uniform chamber-to-chamber processing and cycle times for robust results, tight control of layer thicknesses, the elimination of defects and metal contamination and high productivity enabled by a versatile chemical-supply system.

About SCREEN Semiconductor Solutions: SCREEN Semiconductor Solutions has been established as a group company of SCREEN Holdings. It inherits all of the semiconductor equipment business from its predecessor, Dainippon Screen. On a base of the core technologies in etching and photolithography that has been cultivated over the years, it is a specialized manufacturer of semiconductor production equipment in various areas such as wafer cleaning equipment, lithography equipment and annealers, and is one of the world’s top 10 suppliers. For more information, please visit: www.screen.co.jp/eng/spe.

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About Soitec: Soitec (Euronext, Paris) is a world leader in designing and manufacturing semiconductor materials. The company uses its unique technologies and semiconductor expertise to serve the electronics and energy markets. With 3,600 patents worldwide, Soitec’s strategy is based on disruptive innovation to answer its customers’ needs for high performance, energy efficiency and cost competitiveness. Soitec has manufacturing facilities, R&D centers and offices in Europe, the U.S. and Asia. For more information, please visit www.soitec.com and follow us on Twitter: @Soitec_EN and @Soitec_FR.

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