

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of June 2006 No. 5

TOWER SEMICONDUCTOR LTD.
(Translation of registrant's name into English)

RAMAT GAVRIEL INDUSTRIAL PARK
P.O. BOX 619, MIGDAL HAEMEK, ISRAEL 23105
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F Form 40-F

Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes No

On June 15, 2006, the Registrant announced that it began production of a notebook embedded controller developed by Winbond Israel. Attached hereto is a copy of the press release.

This Form 6-K is being incorporated by reference into all effective registration statements filed by us under the Securities Act of 1933.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

TOWER SEMICONDUCTOR LTD.

Date: June 15, 2006

By: /s/ Nati Somekh Gilboa

Nati Somekh Gilboa
Corporate Secretary

TOWER SEMICONDUCTOR BEGINS PRODUCTION OF A NOTEBOOK EMBEDDED
CONTROLLER DEVELOPED BY WINBOND ISRAEL

MIGDAL HAEMEK, ISRAEL - June 15, 2006 - Tower Semiconductor Ltd. (NASDAQ: TSEM; TASE: TSEM), a pure-play independent specialty foundry, today announced production start of an Embedded Controller for Winbond Electronics Corporation (TSEC: WEC), a leading Integrated Device Manufacturer (IDM) in Taiwan's IC industry. The product was redesigned by Winbond's Israeli subsidiary (National Semiconductor's former Advanced PC Division unit acquired by Winbond in May 2005) for Tower's manufacturing process.

This Embedded Controller, used in Notebook PC's applications, is compatible to Winbond's existing embedded controller which has become a "de-facto standard" solution in many brand name PC's.

Market analysts estimate growth of the notebook market from about 72 million units in 2005 to more than 100 million units in 2009.

Designed to provide full backward compatibility with its existing device, the product is manufactured in 0.18-micron technology, at Tower's Fab2, and is expected to start volume shipment in Q3 of this year.

"Working with Tower on this project gave us an opportunity to recognize and utilize the advantage of being close to the silicon manufacturer", said Jonathan Levy, President of Winbond Israel, and General Manager of the Advanced PC Product Center. "Tower's excellent support in CAD, process integration, engineering samples and quality manufacturing helped us to meet and exceed the project goals."

"This design win demonstrates Tower's advantages in working with designers in the Israeli semiconductor community", said Dani Ashkenazi, general manager of CMOS product line at Tower. "Close interaction with a local manufacturing facility is a key enabler for companies seeking advanced CMOS technology coupled with high quality customer service."

ABOUT TOWER SEMICONDUCTOR LTD.

Tower Semiconductor Ltd. is a pure-play independent wafer foundry established in 1993. The company manufactures integrated circuits with geometries ranging from 1.0 to 0.13 micron; it also provides complementary technical services and design support. In addition to digital CMOS process technology, Tower offers advanced non-volatile memory solutions, mixed-signal and CMOS image-sensor technologies. To provide world-class customer service, the company maintains two manufacturing facilities: Fab 1 has process technologies from 1.0 to 0.35 micron and can produce up to 16,000 150mm wafers per month. Fab 2 features 0.18-micron and below standard and specialized process technologies, and has the current capacity of up to 15,000 200mm wafers per month. Tower's Web site is located at <http://www.towersemi.com/>.

ABOUT WINBOND ELECTRONICS CORPORATION

Winbond Electronics Corporation, a global corporation based in Hsinchu, Taiwan is a leading manufacturer of semiconductor solutions. Winbond designs, develops, markets and sells IC solutions to the global electronics marketplace. Winbond's primary mission is to serve the growing needs of manufacturers of computers, consumer and communication electronics. In May 2005, Winbond Electronics acquired National Semiconductor's Advanced PC (APC) Division, the pioneer in providing many of the PC Logic solutions. Winbond Electronics has about 5000 employees worldwide with design centers in Hsinchu, Taiwan; San Jose, California and Herzelia, Israel. For more information about Winbond visit <http://www.winbond-usa.com>.

SAFE HARBOR

This press release includes forward-looking statements, which are subject to risks and uncertainties. Actual results may vary from those projected or implied by such forward-looking statements. A complete discussion of risks and uncertainties that may affect the accuracy of forward-looking statements included in this press release or which may otherwise affect our business is included under the heading "Risk Factors" in our most recent Annual Report on Forms 20-F, F-1, F-3 and 6-K, as were filed with the Securities and Exchange Commission and the Israel Securities Authority. We do not intend to update, and expressly disclaim any obligation to update, the information contained in this release.

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