

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of September 2006, No. 2

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 September 12, 2006, the Registrant announced that Saifun and Tower Sign Expanded Licensing Agreement 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: September 12, 2006

By: /s/ Nati Somekh Gilboa

Nati Somekh Gilboa
Corporate Secretary

SAIFUN AND TOWER SIGN EXPANDED LICENSING AGREEMENT

NETANYA AND MIDGAL HAEMEK, ISRAEL, SEPTEMBER 12, 2006 - Saifun Semiconductors Ltd. (Nasdaq: SFUN) and Tower Semiconductor Ltd. (Nasdaq: TSEM; TASE: TSEM) today announced that the two companies have signed a new agreement whereby Saifun extends the license of the Saifun NROM(R) technology to Tower for the manufacture of Embedded Flash and Embedded EEPROM products.

Tower is currently offering its customers a wide variety of qualified NROM-based embedded-Flash modules under the microFLASH(R) brand name. The microFLASH(R) embedded modules are manufactured on Tower's 0.18 micron process in various densities and speeds and optimized for integration into various embedded microcontroller applications, as well as wireless connectivity, smart card and security applications. Under the terms of the new agreement, Tower may also offer NROM-based embedded-Flash modules on further advanced process generations.

Commenting on the agreement, Russell Ellwanger, Chief Executive Officer of Tower said, "Saifun's NROM technology has a proven track record with Tower and other leading manufacturers in a broad span of process geometries. It enables us to produce high-density embedded products with a favorable cost/performance ratio. These and other inherent advantages enable Tower to keep bringing competitive memory modules to the market while further expanding our position in the NVM space."

"We are pleased to extend our ten-year relationship with Tower," added Dr. Boaz Eitan, Chief Executive Officer of Saifun. "Tower was the first licensee of NROM in 1997, and the first to introduce NROM-based products into the Code Flash market. Since that time, other manufacturers have licensed our NROM technology for embedded applications, including global technology leaders such as Sony and Panasonic. With the embedded-memory market expected to grow substantially in the coming years, from a \$3.3B in 2005 to a projected \$6.3B in 2010, Tower's customers will continue to benefit from the embedded microFLASH(R) modules offered."

ABOUT SAIFUN SEMICONDUCTORS LTD.

Saifun is a provider of intellectual property (IP) solutions for the non-volatile memory (NVM) market. The company's innovative Saifun NROM(R) technology allows semiconductor manufacturers to deliver high performance, reliable products at a lower cost per megabit, with greater storage capacity, using a single process for all NVM applications. Saifun licenses its IP to semiconductor manufacturers who use this technology to develop and manufacture a variety of stand-alone and embedded NVM products. These include Flash memory for the telecommunications, consumer electronic, networking and automotive markets. The companies currently licensing Saifun NROM technology are Infineon Technologies, Macronix International, Matsushita Electric Industrial, Semiconductor Manufacturing International Corporation, Sony Corporation, Spansion, and Tower Semiconductors.

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 embedded non-volatile memory solutions, mixed-signal & RF-CMOS 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 and 0.13-micron, 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 www.towersemi.com.

SAFE HARBOR STATEMENT

INFORMATION PROVIDED IN THIS PRESS RELEASE MAY CONTAIN STATEMENTS RELATING TO CURRENT EXPECTATIONS, ESTIMATES, FORECASTS AND PROJECTIONS ABOUT FUTURE EVENTS THAT ARE "FORWARD-LOOKING STATEMENTS" AS DEFINED IN THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995. THESE FORWARD-LOOKING STATEMENTS GENERALLY RELATE TO EACH OF THE COMPANY'S PLANS, OBJECTIVES AND EXPECTATIONS FOR FUTURE OPERATIONS AND ARE BASED UPON MANAGEMENT'S CURRENT ESTIMATES AND PROJECTIONS OF FUTURE RESULTS OR TRENDS. ACTUAL FUTURE RESULTS MAY DIFFER MATERIALLY FROM THOSE PROJECTED AS A RESULT OF CERTAIN RISKS AND UNCERTAINTIES. WE URGE INVESTORS TO REVIEW IN DETAIL THE RISKS AND UNCERTAINTIES (I) WITH RESPECT TO SAIFUN - IN SAIFUN'S SECURITIES AND EXCHANGE COMMISSION FILINGS, INCLUDING BUT NOT LIMITED TO THE "RISK FACTORS" AS DESCRIBED IN SAIFUN'S FORM 20-F FILED ON APRIL 11, 2006 AND FORM F-1 FILED ON MARCH 31, 2006 WITH THE U.S. SECURITIES AND EXCHANGE COMMISSION; AND (II) WITH RESPECT TO TOWER - IN TOWER'S SECURITIES AND EXCHANGE COMMISSION FILINGS, INCLUDING BUT NOT LIMITED TO THE "RISK FACTORS" AS DESCRIBED IN TOWER'S FORMS 20-F, F-1, F-3 AND 6-K WITH THE U.S. SECURITIES AND EXCHANGE COMMISSION. THESE FORWARD-LOOKING STATEMENTS ARE MADE ONLY AS OF THE DATE HEREOF, AND WE UNDERTAKE NO OBLIGATION TO UPDATE OR REVISE THE FORWARD-LOOKING STATEMENTS, WHETHER AS A RESULT OF NEW INFORMATION, FUTURE EVENTS OR OTHERWISE.

SAIFUN SEMICONDUCTORS CONTACT:

Marsha Shalvi
Investor Relations
Tel: +972-9-892-8450
Email: marshas@saifun.com

SAIFUN INVESTOR RELATIONS CONTACT:

Lee Roth/Todd Fromer
KCSA Worldwide
212-896-1209/212-896-1215
lroth@kcsa.com/tfromer@kcsa.com

TOWER SEMICONDUCTOR PR CONTACT:

MICHAEL AXELROD
TEL: +1-408-330-6871
EMAIL: pr@towersemi.com

TOWER SEMICONDUCTOR IR CONTACT:

ILANIT VUDINSKY
+972-4-650-6434
EMAIL: ilanitvu@towersemi.com