

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of September 2006, No. 6

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 26 2006, the Registrant announced that Tower Semiconductor's CMOS Image sensor technology opens new markets for Panavision SVI, 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 26, 2006

By: /s/ Nati Somekh Gilboa

Nati Somekh Gilboa
Corporate Secretary

TOWER SEMICONDUCTOR'S CMOS IMAGE SENSOR TECHNOLOGY
OPENS NEW MARKETS FOR PANAVISION SVI

Line Scan Image Sensors Introduced Into New Applications

MIGDAL HAEMEK, Israel, September 26 - Tower Semiconductor Ltd. (NASDAQ: TSEM; TASE: TSEM), a pure-play independent specialty foundry, today announced that its CMOS Image Sensor (CIS) technology is the corner stone of Panavision SVI's family of Line Scan Image Sensors. The sensor ICs are produced in Tower using several advanced CMOS Image Sensor manufacturing processes.

The line scan sensors utilize Panavision SVI's proprietary Active Column Sensor (ACS(R)) architecture, to improve image quality and speed. RPLIS2048 and ELIS1024 were widely adopted for embedded bar code applications while LIS-500 opened up the new optical touch screen and position feedback markets.

During the past several years, Panavision SVI has worked with Tower to complete an extensive line of Line Scan Image Sensors for applications ranging from toys, barcode, food processing and many others all the way to state of the art scientific applications.

Tower's renowned engineering support and fast ramp to high volume production were instrumental in Panavision SVI's commitment to continue their long term relationship with Tower and expand new products using Tower's advanced 0.18-micron Fab 2 CIS technologies.

"Partnering with Tower on CIS technologies enabled us to introduce leading Line Scan Image Sensor solutions into the market," said Terry Zarnowski, Director of Marketing for Panavision SVI. "In addition to its unparalleled expertise in CMOS Image Sensor technology, Tower Semiconductor offers a complete product line migration path as we continue to expand and grow our business. We also benefit from the ability to utilize complementary services such as the use of IP, optical testing, and failure analysis."

"Teaming up with Panavision SVI enabled us to contribute to its success and continued growth in recent years," said Dr. Avi Strum, General Manager of CIS and NVM Product Lines at Tower Semiconductor. "Working with Panavision on their next generation products allows Tower further penetration into line scan as well as array sensor markets. We look forward to continuing our successful relationship with Panavision SVI as we further explore new technologies, products and markets with them."

ABOUT PANAVISION SVI:

Based in Homer, New York, Panavision SVI, LLC is an innovator and developer of high performance image sensors and related technology. The company is an innovator in developing and patenting novel sensor technologies including the Active Column Sensor(TM) (ACS(R)), XtremePIX(TM), and others. Offering sensors in both 2D array and line scan formats, their products are found in many high-end imaging applications such as high resolution video, X-ray, barcode, spectrometry and others, serving the consumer, commercial, scientific and industrial markets. Panavision SVI products and technology have demonstrated advantages over competing imaging technologies such as CCD and CMOS APS. For more information please visit www.panavisionsvi.com.

ABOUT TOWER SEMICONDUCTOR LTD.

Tower Semiconductor Ltd. is a pure-play independent specialty 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 & 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 <http://www.towersemi.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 Form 20-F, Forms 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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