

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of October 2007

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 October 17, 2007, Tower Semiconductor announced that it Begins Volume Production of ViTi's CMOS Image Sensors for Home Security and Surveillance System. 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.

Date: October 17, 2007

TOWER SEMICONDUCTOR LTD.

By: /s/ Nati Somekh Gilboa

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Nati Somekh Gilboa  
Corporate Secretary

TOWER SEMICONDUCTOR BEGINS VOLUME PRODUCTION OF  
VITI'S

CMOS IMAGE SENSORS FOR HOME SECURITY AND  
SURVEILLANCE SYSTEMS

Tower's Pixel IP Exhibits Superior Performance in Low Light Applications

MIGDAL HAEMEK, Israel - October 17, 2007 - Tower Semiconductor, Ltd. (NASDAQ: TSEM; TASE: TSEM), an independent specialty foundry today announced that it began manufacturing of a number of CMOS image sensor (CIS) products for Vision Integration Technology, Inc. (ViTi) in its Fab1 manufacturing facility.

ViTi is a Taiwan-based semiconductor company that specializes in products for security and surveillance systems, primarily in the Chinese and European markets. The growth in video surveillance is expected to open a vast array of opportunities for associated semiconductors. iSuppli projects that the market for surveillance-camera semiconductors would reach \$1.25 billion in 2011.

ViTi began volume production of its home security and closed circuit television (CCTV) sensors in Tower's Fab1 using a 0.35-micron CIS process. The products employ pixel IP that was designed and optimized by Tower specifically for these demanding applications.

"With Tower's 0.35-micron process and pixel IP, our sensor's low-light sensitivity to both visible and infrared light is superior to competitors' similar products, achieving enhanced performance - even in night conditions, which are prevalent in security and surveillance applications," said Mr. Ching Lin Hsieh, president for ViTi. "In addition, our sensors utilize low operating voltage, which results in lower power consumption. We were very pleased with Tower's intimate customer support through design and ramp-to-production, contributing to our excellent product performance."

"We are excited to complement ViTi's expertise in home security solutions with our advanced pixel IP and process, enabling them to bring superior image sensors to this fast evolving market," said Jonathan Gendler, director of CIS & NVM customer management at Tower. "It has been a rewarding experience to have both parties bring their expertise to the table and jointly achieve outstanding results. ViTi contributed their experience and knowledge in the security applications while Tower delivered the technology for low noise and light sensitivity in dark environment. We trust that Tower's technology advantage and our engineering capabilities will serve ViTi well in its efforts to dominate this emerging market in China."

ABOUT TOWER SEMICONDUCTOR LTD.:

Tower Semiconductor Ltd. (Nasdaq: TSEM, TASE: TSEM) is an independent specialty foundry that delivers customized solutions in a variety of advanced CMOS technologies, including digital CMOS, mixed-signal and RF (radio frequency) CMOS, CMOS image sensors, power management devices, and embedded non-volatile memory solutions. Tower's customer orientation is complemented by its uncompromising attention to quality and service. Its specialized processes and engineering expertise provides highly flexible, customized manufacturing solutions to fulfill the increasing variety of customer needs worldwide. Offering two world-class manufacturing facilities with standard and specialized process technologies ranging from 1.0- to 0.13-micron, Tower Semiconductor provides exceptional design support and technical services to help customers sustain long-term, reliable product performance, while delivering on-time and on-budget results. More information can be found at <http://www.towersemi.com>.

ABOUT VITI:

Vision Integration Technology, Inc. (ViTi) was founded in 1999 with focus on CMOS image sensor ICs. ViTi has been developing CMOS image sensor ICs for different applications and markets, focusing mainly on higher-end products. Security and surveillance camera sensors are ViTi's leading product line, and several products with different resolutions and pixel sizes have been successfully launched to the market. ViTi advanced technology enables the development and manufacturing of products with superior optical performance especially in low light and night conditions.

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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