FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of February No. 5 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 [X] 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 [X]

On February 21, 2007,the registrant announced that e2v Selects Tower Semiconductor as supplier of choice for CMOS Image Sensor devices, 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: February 21, 2007

By: /s/ Nati Somekh Gilboa

Nati Somekh Gilboa
Corporate Secretary

E2V SELECTS TOWER SEMICONDUCTOR AS SUPPLIER OF CHOICE FOR CMOS IMAGE SENSOR DEVICES

CHELMSFORD, ENGLAND AND MIGDAL HA'EMEK, ISRAEL - February 21, 2007 - e2v (LSE: E2V.L), a leading developer and manufacturer of high-technology electronic components and sub-systems, and Tower Semiconductor, Ltd. (Nasdaq: TSEM, TASE: TSEM), a pure-play independent specialty wafer foundry, today announced that e2v has selected Tower Semiconductor as its supplier of choice for its CMOS (Complementary Metal Oxide Semiconductor) image sensor devices.

The design expertise of e2v, combined with the high performance CMOS manufacturing capabilities of Tower Semiconductor, will result in a brand new generation of `System on a Chip' sensors benefiting from high image quality as well as embedded capabilities.

e2v's CMOS Image Sensor (CIS) products target a broad range of industrial and medical applications. The CMOS sensors will be produced in Tower's advanced Fab2, using the CIS 0.18 micron process and its advanced capabilities. e2v and Tower are currently focusing on ten key development projects.

"With Tower's state-of-the-art CMOS image sensor manufacturing process, their unique stitching technology and clear desire to work with us in developing our business, it became an obvious choice for us to select Tower" said Jean-Philippe Lamarcq Imaging Business Unit General Manager at e2v, Grenoble. Adding "We are very happy with the depth of cooperation with Tower and look forward to a long-term business relationship."

With over 25 years' experience, e2v is a leader in the professional imaging market. This deal will further enhance e2v's position in key markets, such as medical and industrial imaging, growing at annual rates of 10-15%.

"We are pleased to provide e2v with our advanced CMOS image sensing design, device and process innovations, leading to excellent picture quality and superior product performance " said Dr. Avi Strum, general manager of the CMOS image sensor product line at Tower Semiconductor, " The selection by e2v is the result of a two-year joint development program between Tower and the Grenoble facility as well as the major technology breakthroughs we have demonstrated. We are happy to continue providing e2v with effective technology capabilities and support".

ABOUT TOWER SEMICONDUCTOR LTD.

Tower Semiconductor Ltd. (Nasdaq: TSEM, TASE: TSEM) 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, each with standard and specialized process technology processes: Fab 1 ranging from 1.0 to 0.35 and Fab 2 featuring 0.18 and 0.13-micron. Tower's web site is located at http://www.towersemi.com

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ABOUT E2V TECHNOLOGIES PLC

e2v technologies is a leading designer, developer and manufacturer of specialised components and subsystems, falling within two product groups:

- Electronic tubes
- Sensors and Semiconductors

These products enable some of the world's leading OEMs to deliver innovative systems for medical and science, aerospace and defence, and commercial and industrial applications.

For the year ended 31 March 2006, e2v achieved sales of (pound)112m and is listed on the London Stock Exchange (e2v.l). In July 2006 e2v technologies plc acquired a leading designer, manufacturer and distributor of specialised electronic components and sub-systems, based in Grenoble, France. The acquisition represents an opportunity to strengthen the Group's position as a major global provider of specialised electronic components and subsystems.

e2v's products are supplied into three core market areas:

- Medical & Science: Sensor technology includes imaging sensors for intra-oral and panoramic dental X-ray, mammography, life science applications and X-ray microscopy. Electronic tubes are the enabling technology behind radiotherapy cancer treatments, microwave medical therapy and high-energy physics.
- Aerospace & Defence: Sensor technology includes military surveillance, targeting and guidance, space-based imaging and astronomy, radar & electronic warfare and broadband data converters and microprocessors for aerospace applications. Electronic tubes provide the enabling technology behind radars, electronic countermeasures (ECM), electronic warfare and satellite communications.

- Commercial & Industrial: Sensor technology includes marine radars, industrial safety sensors, automotive radars and alarms, thermal imaging cameras used by fire fighters, CCD and CMOS high resolution line scan cameras for industrial inspection. Electronic tubes provide enabling technology behind TV broadcast, satellite communications, marine radar and food & industrial processing.

The overall purpose of the business is to grow sustainable shareholder value whilst appropriately meeting the expectations of customers, people, partners, suppliers and the wider community. e2v's vision is to create value through bright ideas in technology and materials science. The Company's mission is to place customers at the heart of the business, providing enabling products of premium quality that extend technical barriers and enhance the competitive position of our partners.

e2v has approximately 1,800 employees worldwide with three UK based manufacturing sites in Chelmsford, Lincoln and High Wycombe, and one in Grenoble, France. In addition e2v has sales offices in the UK, USA, Germany and France and Hong Kong, as well as a network of distributors and representatives covering other key territories.

Further information on e2v technologies plc is available from its website, www.e2v.com

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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.