

TOWER SEMICONDUCTOR LTD

Form 6-K

March 17, 2011

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FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of March 2011 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

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On March 17, 2011, the registrant announced Presentation at ISE 2011 on Foundry Advancements in CMOS Image Sensor Market. Attached please find 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: March 17, 2011

By: /s/ Nati Somekh Gilboa  
Name: Nati Somekh Gilboa  
Title: Corporate Secretary

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NEWS ANNOUNCEMENT

FOR IMMEDIATE RELEASE

TowerJazz Announces Presentation at ISE 2011 on Foundry Advancements in CMOS  
Image Sensor Market

Implements new development programs for advanced technology offerings, ramps several products to  
volume production

MIGDAL HAEMEK, Israel and NEWPORT BEACH, Calif., March 17, 2011 – TowerJazz, the global specialty foundry leader, announced it will exhibit and present a talk, "Foundry Perspective on Trends and Developments in CMOS Image Sensor Markets," at ISE (Image Sensors Europe) on March 23-24, 2011 in London. TowerJazz has strengthened its presence in the CMOS image sensor market with many new products that have ramped to volume production as well as technological advancements, including a new offering for a very low dark current technology, especially at elevated temperatures. In addition, TowerJazz has initiated several development programs to offer customers enhanced technologies for innovative products in multiple industries such as professional high-end video and still photography, medical X-ray for dental and radiography, industrial sensors and machine vision.

TowerJazz's state of the art 0.18um image sensor platform has been widely received by many of its customers which are ramping to volume production. For example, TowerJazz has ramped production of two new high-end camera sensors showing superior performance and gaining excellent traction in the market. Also, TowerJazz ramped several wafer scale stitched X-ray sensors to production with best-in-class quality and yields. CMOS X-ray sensors are gradually replacing older technologies such as amorphous silicon plates and image intensifier tubes, offering superb performance, unmatched ease of integration and an excellent cost of ownership model for the medical community.

TowerJazz further reinforced its position as the leading foundry for intraoral X-ray dental sensors, and significantly increased its market share for these types of sensors as it produces sensors for most of the leading tier-one OEMs in this market. Opposite to the huge X-ray sensors, TowerJazz manufactures integrated circuits for tiny video cameras for endoscopic use, allowing cost effective solutions that enable single use disposable endoscopes.

TowerJazz's presence in the industrial sensor market has significantly grown, with applications such as machine vision, 2D barcode readers and line scanners as the largest volume drivers. Other new applications such as finger print detection for homeland security, traffic monitoring cameras and others have increased its portfolio and will support its further growth in the CMOS image sensor market in the coming years.

Recently, TowerJazz announced it has signed contracts for two phases of development with the US Army Night Vision Electronics and Sensors Directorate (NVESD) for CMOS low light image sensor development. The project will result in advanced CIS technology and manufacturing solutions at TowerJazz's on-shore facility and will provide a viable, commercially sustainable foundry offering to support not only the US Army NVESD and their suppliers, but all Department of Defense (DoD) agencies and other interested third parties.

In addition, TowerJazz has kicked off development programs to further reduce dark current and enhance pixel dynamic range and angular response. Improved technology developed through these programs will be offered to TowerJazz customers during 2011. TowerJazz has also made significant progress with its backside illumination program which will be offered to customers for production in 2012.

"We have seen a massive shift of new designs from using older technologies to using our state of the art 0.18um CMOS image sensor technology. Due to the maturity of our process technology, combined with the design flexibility we offer, our customers are able to realize stronger and more reliable performance," said Dr. Avi Strum, Vice President and General Manager of Specialty Business Unit, TowerJazz. "In addition, our long-term investment in R&D and our excellent technical support keeps our customers at the cutting edge."

TowerJazz will be exhibiting at ISE along with presenting its talk, "Foundry Perspective on Trends and Developments in CMOS Image Sensor Markets." TowerJazz is pleased to pass along a 10% discount to attend the conference and workshops. Registering delegates should use the code TOWISE10 during the registration process. For more information on the conference, please visit: <http://www.image-sensors.com>.

#### About TowerJazz

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), the global specialty foundry leader and its fully owned U.S. subsidiary Jazz Semiconductor, operate collectively under the brand name TowerJazz, manufacturing integrated circuits with geometries ranging from 1.0 to 0.13-micron. TowerJazz provides industry leading design enablement tools to allow complex designs to be achieved quickly and more accurately and offers a broad range of customizable process technologies including SiGe, BiCMOS, Mixed-Signal and RFCMOS, CMOS Image Sensor, Power Management (BCD), and Non-Volatile Memory (NVM) as well as MEMS capabilities. To provide world-class customer service, TowerJazz maintains two manufacturing facilities in Israel and one in the U.S. with additional capacity available in China through manufacturing partnerships. For more information, please visit [www.towerjazz.com](http://www.towerjazz.com).

Safe Harbor Regarding Forward-Looking Statements

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 Tower and/or Jazz's business is included under the heading "Risk Factors" in Tower's most recent filings on Forms 20-F, F-3, F-4 and 6-K, as were filed with the Securities and Exchange Commission (the "SEC") and the Israel Securities Authority and Jazz's most recent filings on Forms 10-K and 10-Q, as were filed with the SEC, respectively. Tower and Jazz do not intend to update, and expressly disclaim any obligation to update, the information contained in this release.

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