

TOWER SEMICONDUCTOR LTD

Form 6-K

March 21, 2012

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of March 2012

No. 04

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 March 21, 2012, the registrant announces TowerJazz's Advanced CMOS Image Sensor Technology Powers e2v's New High Performing Product Families.

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 21, 2012

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

TowerJazz's Advanced CMOS Image Sensor Technology Powers e2v's New
High Performing Product Families
e2v increases production of high sensitivity Ruby sensors and high speed
ELiXA+ cameras using advanced CIS technology at TowerJazz's Fab 2

CHELMSFORD, England and MIGDAL HA'EMEK, Israel, March 20, 2012 — e2v, the global provider of high performance imaging solutions and TowerJazz, the global specialty foundry leader, today announced the increased production of e2v's Ruby low light CMOS imaging sensors and the ELiXA+ high speed multi-line scan camera using TowerJazz's advanced CMOS Image Sensor (CIS) technology. e2v offers market leading systems and sensors for machine vision and industrial cameras integrating high end CMOS design for high performance imaging solutions which allow for significant system illumination cost reduction and very low-light imaging in outdoor camera applications.

The combination of e2v's innovative solutions with the high performance CIS technology and manufacturing capabilities of TowerJazz, have opened up new possibilities at system and sensor levels. New System-on-Chip (SoC) and camera generations with innovative embedded features have been introduced by e2v for the most demanding imaging applications. TowerJazz's CIS technology has unique advantages for industrial image sensor applications enabling high speed and high sensitivity global shutter sensors with low noise and a high signal to noise ratio (SNR).

Officially introduced in the fourth quarter of 2011, the ELiXA+ camera range and the Ruby imaging sensor family are demonstrating the successful relationship between e2v and TowerJazz. The new product families described join several of e2v's products already running in volume production at TowerJazz's Fab 2, including sensors for industrial, medical, scientific and space applications. With a strong relationship of over six years, e2v has been progressively increasing production at TowerJazz to match demand for these advanced sensor solutions. According to Yole Development's Image Sensor market research, the machine vision market is expected to be \$88M by 2015 with a CAGR of 23%.

“We are pleased to have TowerJazz as our development and manufacturing partner as we increase production for high performance imaging markets. Their unique technology offering, high production quality and high yields enable strong performing and cost-effective product solutions for our rich IP portfolio,” said Francois Thouret, Divisional Director for e2v's high performance imaging solutions business. “We continue to develop the next CMOS imaging solutions with our customers in order to satisfy the need for more high performance and customized solutions. We value the capabilities and flexibility of a foundry partner like TowerJazz to meet our stringent requirements by offering a unique combination of process technology, pixel expertise, flexibility, customization & exemplary customer support.”

“Our close R&D collaboration is key in making successful and high performing sensors. Our CIS process technology is a great enabler for companies like e2v making high-end CIS products. In this case, high performing global shutter pixel knowhow was a key factor. We offer unique patented stitching solutions which are vital for some large scale industrial sensor applications,” said Dr. Avi Strum, Vice President and General Manager of TowerJazz's Specialty Business Unit. “We are very proud of our partnership with e2v, a company with an impressive track record of innovation and technological breakthroughs.”

Companies to showcase technologies at Image Sensors (IS) conference in London March 20-22, 2012.

About e2v

e2v is a leading global provider of technology solutions for high performance systems; delivering solutions, sub-systems and components, to advanced systems companies, for specialist applications within medical & science, aerospace & defence, and commercial & industrial markets.

e2v is headquartered in the UK, employs approximately 1500 people, has design and production facilities across Europe and North America, and has a global network of sales and technical support offices. For the year ended 31 March 2011, e2v reported sales of over £220m and is listed on the London Stock Exchange. For more information, visit www.e2v.com.

About TowerJazz

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), its fully owned U.S. subsidiary Jazz Semiconductor Ltd., and its fully owned Japanese subsidiary TowerJazz Japan, Ltd., operate collectively under the brand name TowerJazz, the global specialty foundry leader. TowerJazz manufactures integrated circuits with geometries ranging from 1.0 to 0.13-micron, offering 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 CMOS and MEMS capabilities. TowerJazz also offers a world-class design enablement platform that complements its sophisticated technology and enables a quick and accurate design cycle. In addition, TowerJazz provides (TOPS) Technology Optimization Process Services to IDMs as well as fabless companies that need to expand capacity, or progress from an R&D line to a production line. To provide multi-fab sourcing, TowerJazz maintains two manufacturing facilities in Israel, one in the U.S., and one in Japan with additional capacity available in China through manufacturing partnerships. For more information, please visit 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 TowerJazz'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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