

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of October 2009 No. 1

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 5, 2009, the registrant announces Fourth Annual Conference focused on Analog/Mixed-Signal Circuits, Applications & Technology.

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: October 05, 2009

By: /s/ Nati Somekh Gilboa

Nati Somekh Gilboa
Corporate Secretary

Tower and Jazz Semiconductor Announce Fourth Annual Conference focused on Analog/Mixed-Signal Circuits, Applications & Technology

*Conference includes keynote by iSuppli Director, Len Jelinek, and technical
presentations from global semiconductor industry leaders*

MIGDAL HAEMEK, Israel, and NEWPORT BEACH, Calif., October 5, 2009 – Tower Semiconductor, Ltd. (NASDAQ: TSEM, TASE: TSEM), and its U.S. subsidiary, Jazz Semiconductor today announced the fourth annual technology conference at its Newport Beach facility on November 5, 2009. This year's Jazz and Tower conference (JaTc) is focused on the central theme of "Stimulus for Success: Specialty Solutions Enable Customer Innovation." The one-day event will include key invited speakers as well as contributed talks, vendor exhibits, and a reception hosted by Tower and Jazz. All participants will have an opportunity to meet with leaders from academia and top executives and technical professionals in the semiconductor industry. To register, please visit: http://www.jazzsemi.com/news_events/registration_jatc-09.shtml.

JaTc will open with a presentation by Russell Ellwanger, Tower CEO and Jazz Chairman of the Board of Directors, who will present the key milestones of Tower and Jazz's merger and the past year's accomplishments as well as discuss the future strategic initiatives of the combined global company. Subsequently, a keynote will be presented by Len Jelinek, iSuppli's Director and Chief Analyst of Semiconductor Manufacturing who will provide an industry outlook. Next, Tower and Jazz will provide a technology and design enablement services update and offer window tours of its 200mm manufacturing facility.

"I am delighted to share the company's milestones during the past year since the merger was completed and to show how we have become one company, twice as strong," said Russell Ellwanger, Tower CEO and Jazz Chairman of the Board of Directors. "The integration of Tower and Jazz has provided many benefits including fully complementary technical offerings and roadmaps, increased capacity, a larger and more diversified customer base, substantial cost reduction through the elimination of duplicate contextual functions, and the realization of supply chain synergies; all of which have put us in a strong financial position. We are the fastest growing foundry over the previous three years and we foresee this for 2009 as well. The completion of our integration has put us in the position of global specialty foundry leader and we are optimistic to sustain profitable growth for the next years to come. We invite all to attend and share the excitement that we, and many of our customers, have already experienced."

The afternoon sessions will center around the Analog-Intensive Mixed-Signal Circuits, Applications, and Technology (AIMS-CAT) seminar bringing together invited speakers to discuss the latest technical advances in areas such as emerging millimeter applications, integrated power management platforms, non-volatile memory (NVM), current trends in imaging technology, and design flow for RF SiGe applications, among others. The AIMS-CAT seminar will feature several technical presentations from the following industry leading companies and universities: Agilent Technologies, Cadence Design Systems, Menara Networks, Pacific MicroCHIP Corp., Panavision Imaging, Triune Systems, University of California, San Diego, and University of Massachusetts, Lowell.

“Having attended the conference at Jazz last year, I was able to see first hand this unique venue for leading analog and mixed-signal chip companies to share the latest advances in the design and manufacture of semiconductor components. This year, I am pleased to be invited as a keynote speaker and look forward to providing an industry outlook to an impressive targeted group of semiconductor company executives and engineers,” said Len Jelinek, Director and Chief Analyst of Semiconductor Manufacturing, iSuppli.

Conference attendees can also experience the latest from tool and IP providers, design companies, and post wafer service companies. JaTc gold sponsors include: Agilent, ARM, Cadence, GDSI, GSA, Simucad, SVTC, and Toppan. Silver sponsors include: Chronicle Technology, FlipChip, Helic, Kaben, Novocell, Pacific MicroCHIP Corp., Photonics, Quik-Pak and Tanner EDA. For more information or online registration, please visit http://www.jazzsemi.com/news_events/registration_jatc-09.shtml.

About Tower Semiconductor, Ltd. and Jazz Semiconductor, Inc.

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), the global specialty foundry leader and its fully owned subsidiary Jazz Semiconductor, a Tower Group Company is a leader in Analog-Intensive Mixed-Signal (AIMS) foundry solutions. Tower and Jazz manufacture integrated circuits with geometries ranging from 1.0 to 0.13-micron and provide industry leading design enablement tools to allow complex designs to be achieved quickly and more accurately. Tower and Jazz offer a broad range of process technologies including Digital, Mixed-Signal and RFCMOS, HV CMOS, BCD, Non-Volatile Memory (NVM), Embedded NVM, MEMS, and CMOS Image Sensors. To provide world-class customer service, Tower and Jazz maintain two fabrication facilities in Israel and one in the U.S. with additional capacity available through manufacturing partnerships in China. For more information, please visit www.towersemi.com and www.jazzsemi.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’s and 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. 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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