FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of December 2009 No. 2

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 S 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 S

On December 16, 2009, the registrant announces that TowerJazz will Present at the 12th Annual Needham Growth Conference and the Sidoti First 2010 Conference in New York.

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: December 16, 2009 By: /s/ Nati Somekh Gilboa

Name: Nati Somekh Gilboa Title: Corporate Secretary

TowerJazz to Present at the 12th Annual Needham Growth Conference and the Sidoti First 2010 Conference in New York

MIGDAL HAEMEK, Israel – December 16, 2009 – TowerJazz (NASDAQ: TSEM), the global specialty foundry leader, today announced that its Chief Executive Officer, Mr. Russell Ellwanger, will present at the 12th Annual Needham Growth Conference and at the Sidoti & Company First 2010 Conference.

The 12th Annual Needham Growth Stock Conference is taking place at the New York Palace Hotel in New York, New York. TowerJazz is scheduled to present in the Louis Room at 4:30p.m. eastern time on Tuesday, January 12, 2010.

The TowerJazz presentation at the Sidoti & Company First 2010 Conference will be held at the Grand Hyatt Hotel in New York, New York, in the Imperial Room at 9:40a.m. eastern time on Monday, January 11, 2010.

At both conferences there will be an opportunity for investors to meet one-on-one with Russell Ellwanger, CEO and Oren Shirazi, CFO of TowerJazz. Interested investors should contact the conference organizers at either Needham or Sidoti, or the Investor Relations team at TowerJazz at towerjazz@gkir.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.

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