

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of March No. 2 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 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 19 2007, the Registrant announces that Impinj Delivers Logic Nonvolatile Memory in Tower Semiconductor's 0.13-Micron Process, 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: March 19, 2007

By: /s/ Nati Somekh Gilboa

Nati Somekh Gilboa
Corporate Secretary

IMPINJ DELIVERS LOGIC NONVOLATILE MEMORY IN TOWER SEMICONDUCTOR'S
0.13-MICRON PROCESS

AEON(R)/MTP MULTIPLE-TIME-PROGRAMMABLE NONVOLATILE MEMORY RAMPING TO
PRODUCTION; AVAILABLE THROUGH IMPINJ WITH "TRY IT NOW" PROGRAM

SEATTLE, WASH. AND MIGDAL HA'EMEK, ISRAEL - MARCH 19, 2007 - LEADING LOGIC NONVOLATILE MEMORY (NVM) INTELLECTUAL PROPERTY (IP) SUPPLIER, IMPINJ, INC., AND TOWER SEMICONDUCTOR LTD. (NASDAQ: TSEM; TASE: TSEM), AN INDEPENDENT SPECIALTY FOUNDRY THAT DELIVERS CUSTOMIZED SOLUTIONS IN A VARIETY OF ADVANCED CMOS TECHNOLOGIES, TODAY ANNOUNCED THE AVAILABILITY OF IMPINJ'S AEON(R)/MTP PARALLEL ARCHITECTURE NVM CORES IN TOWER'S 0.13-MICRON LOGIC PROCESS.

EMBEDDED IN SYSTEM-CHIPS THAT POWER HIGH-VOLUME ELECTRONICS PRODUCTS SUCH AS DIGITAL STORAGE DEVICES, IMPINJ'S AEON/MTP NVM CORES STORE CRUCIAL ON-CHIP INFORMATION SUCH AS ENCRYPTION KEYS, CONFIGURATION DATA AND CALIBRATION SETTINGS. AEON/MTP NVM CORES ARE MANUFACTURED IN STANDARD LOGIC CMOS PROCESSES AND ARE AVAILABLE FOR LICENSE THROUGH IMPINJ'S "TRY IT NOW" SIX-MONTH FREE EVALUATION PROGRAM (www.impinj.com/tryitnow.)

"THE DEMAND FOR NVM IP IN STANDARD PROCESSES IS GROWING RAPIDLY, AND WE ARE RAMPING TO VOLUME PRODUCTION OF IMPINJ'S AEON/MTP TO MEET THAT DEMAND," SAID DANI ASHKENAZI, GENERAL MANAGER OF CORE CMOS PRODUCT LINE AT TOWER SEMICONDUCTOR. "WE ARE VERY PLEASED TO PARTNER WITH IMPINJ IN OUR ADVANCED 0.13-MICRON TECHNOLOGY, BRINGING AEON/MTP TO THE GROWING NUMBER OF SYSTEM-ON-CHIP DEVELOPERS LOOKING TO INCORPORATE ADVANCED LOGIC NVM SOLUTIONS IN THEIR DESIGNS."

IDEAL FOR PORTABLE APPLICATIONS, THE CERTIFIED AEON/MTP PARALLEL ARCHITECTURE NVM IP CONSISTS OF HARD MACRO CORES IN 8-BIT TO 256-BIT CONFIGURATIONS WITH PARALLEL DATA OUTPUT ENABLING INSTANT ACCESS TO ALL DATA BITS. ADDITIONAL FEATURES INCLUDE 10-YEAR DATA RETENTION, CAPABILITY FOR UP TO 15,000 WRITE/ERASE CYCLES AND ON-CHIP HIGH-VOLTAGE CIRCUITRY FOR SIMPLIFIED IN-FIELD PROGRAMMING.

"WE ARE VERY EXCITED TO ALIGN WITH TOWER SEMICONDUCTOR'S EMBEDDED NVM INITIATIVES AND EXPAND THE MANUFACTURING OPTIONS FOR IMPINJ'S AEON MEMORY PRODUCTS," SAID LARRY MORRELL, VICE PRESIDENT OF IP PRODUCTS AT IMPINJ. "AS THE NUMBER OF SYSTEM-CHIP DESIGNERS EMBEDDING NVM GROWS, SO DOES THE DEMAND FOR FULLY QUALIFIED CMOS MANUFACTURING ALTERNATIVES."

EMBEDDED IN MORE THAN 300 MILLION CHIPS, IMPINJ'S AEON LOGIC NVM CORES ENABLE HIGH-GROWTH ELECTRONICS PRODUCTS AND APPLICATIONS INCLUDING RF MICROCONTROLLERS, SECURE DIGITAL MEDIA AND PRECISION ANALOG PERFORMANCE TRIMMING FROM LEADING FABLESS SEMICONDUCTOR COMPANIES AND INTEGRATED DEVICE MANUFACTURERS (IDMS).

THE IMPINJ PORTFOLIO OF NVM CORES UNDERGOES STRINGENT AND WELL-DOCUMENTED QUALITY, PERFORMANCE AND MANUFACTURABILITY TESTING, AND IS AVAILABLE AT THE WORLD'S LEADING FOUNDRIES IN VOLUME PRODUCTION AT 0.13-, 0.18- AND 0.25-MICRON TECHNOLOGY NODES.

ABOUT IMPINJ, INC.

IMPINJ, INC. IS A SEMICONDUCTOR AND RFID COMPANY WHOSE PATENTED SELF-ADAPTIVE SILICON(R) TECHNOLOGY ENABLES ITS TWO SYNERGISTIC BUSINESS LINES: HIGH-PERFORMANCE RFID PRODUCTS AND SEMICONDUCTOR INTELLECTUAL PROPERTY (IP). A LEADING CONTRIBUTOR TO THE RFID STANDARDS FOR HIGH-VOLUME SUPPLY-CHAIN APPLICATIONS WORLDWIDE, IMPINJ LEVERAGES ITS TECHNICAL EXPERTISE AND INDUSTRY PARTNERSHIPS TO DELIVER THE GRANDPRIX(TM) SOLUTION, COMPRISING TAGS, READERS, SOFTWARE AND SYSTEMS INTEGRATION TO OFFER RFID THAT JUST WORKS(TM). IMPINJ'S INNOVATIVE IP PRODUCTS, CORE TO THE COMPANY'S RFID TAGS, ARE LICENSED TO LEADING SEMICONDUCTOR COMPANIES WORLDWIDE, ALLOWING THEM TO SEAMLESSLY INTEGRATE CRUCIAL NONVOLATILE MEMORY (NVM) ALONGSIDE ANALOG AND DIGITAL FUNCTIONALITY ON A SINGLE CHIP. IMPINJ'S IP PRODUCTS INCLUDE THE POPULAR AEON(R) FAMILY OF EMBEDDABLE CORES, WHICH PROVIDES REWRITEABLE NVM TECHNOLOGY IN LOGIC CMOS MANUFACTURING. FOR MORE INFORMATION, VISIT <http://www.impinj.com>.

Impinj, Speedway, Self-Adaptive Silicon, GrandPrix, Monza, "RFID that just works", and AEON are either registered trademarks or trademarks of Impinj, Inc.

ABOUT TOWER SEMICONDUCTOR LTD.

TOWER SEMICONDUCTOR LTD. IS A PURE-PLAY INDEPENDENT SPECIALTY 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: FAB 1 HAS PROCESS STANDARD AND SPECIALIZED TECHNOLOGIES FROM 1.0 TO 0.35 MICRON AND FAB 2 FEATURES STANDARD AND SPECIALIZED TECHNOLOGIES OF 0.18, 0.16 AND 0.13-MICRON. TOWER'S WEB SITE IS LOCATED AT <http://www.towersemi.com/>.

TOWER SEMICONDUCTOR SAFE HARBOR STATEMENT

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.

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