UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16
OF THE SECURITIES EXCHANGE ACT OF 1934

For the month of September 2023 No.3

Commission File Number 0-24790

TOWER SEMICONDUCTOR LTD.

(Translation of registrant's name into English)

Ramat Gavriel Industrial Park
P.O. Box 619, Migdal Haemek, Israel 2310502
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F ☒ Form 40-F ☐

On September 11, 2023, the Registrant announced Tower Semiconductor and Fortsense Introduce a Co-Developed Highly Advanced 3D Imager for LiDAR Applications

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.

Date: September 11, 2023

TOWER SEMICONDUCTOR LTD.

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

Tower Semiconductor and Fortsense Introduce a Co-Developed Highly Advanced 3D Imager for LiDAR Applications

Based on Tower's advanced 65nm Stacked BSI CIS platform with hybrid bonding for advanced ToF (Time-of-Flight) and Global Shutter sensors

Providing state-of-the-art imaging solutions addressing the consumer, industrial and automotive market needs

MIGDAL HAEMEK, Israel, and SHENZHEN, China Sept. 11, 2023 – Tower Semiconductor (NASDAQ/TASE: TSEM), the leader in high-value analog semiconductor foundry solutions, and Fortsense, a leader in LiDAR SPAD technology solutions and ICs, today announced the successful development of an advanced 3D imager for LiDAR application based on dToF technology. The newly developed product, FL6031, is based on Tower's 65nm Stacked BSI CIS platform with pixel level hybrid bonding and is the first in a series of products designed to address the needs of numerous depth sensing applications in the automotive, consumer, and industrial markets among others. According to Yole Group, the 3D imaging, sensors, and systems market is expected to grow at 13% CAGR reaching a $17B by 2028.

Tower's advanced 65nm Stacked BSI CIS platform with its unique pixel level hybrid bonding between a SPAD (Single Photon Avalanche Diode) array and high performing logic enables strategic advantages including high-speed in-chip data processing and small die size which are both essential for high resolution dToF (direct Time-of-Flight) sensors. These features, combined with Tower's extensive capabilities in pixel design and customization, enable the development of Fortsense' new product series targeting applications that require adequate distance measurement and depth mapping for fast camera auto focus, 3D scanning, and LiDAR.

"We have chosen Tower as our strategic partner for the development of our 3D imager dToF products based on its versatile and proficient CIS platform offering," said Michael Mo, Fortsense CEO. "The collaborative work of expert teams from both companies, combined with Tower's vast experience in the field of imaging, yielded several successful developments over the past years. We are excited to extend our collaboration and bring to market new, advanced 3D sensing solutions that address the growing needs of strategic markets."

"The collaboration with Fortsense on the development of an optimized 3D imager based on dToF sensor technology is a statement of both parties commitment to drive innovation and deliver exceptional sensors to the 3D imaging market," said Dr. Avi Strum, Senior Vice President and General Manager of Sensors and Displays Business Unit, Tower Semiconductor. "We look forward to continuing our joint efforts in the development of additional products in this series, delivering advanced solutions driving mutual growth and success."

For additional information about Tower's CMOS Image Sensor technology offerings, please visit here.

For more information about Fortsense technology and products, please visit here.

About Tower Semiconductor
Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), the leading foundry of high value analog semiconductor solutions, provides technology and manufacturing platforms for integrated circuits (ICs) in growing markets such as consumer, industrial, automotive, mobile, infrastructure, medical and aerospace and defense. Tower Semiconductor focuses on creating positive and sustainable impact on the world through long term partnerships and its advanced and innovative analog technology offering, comprised of a broad range of customizable process platforms such as SiGe, BiCMOS, mixed-signal/CMOS, RF CMOS, CMOS image sensor, non-imaging sensors, integrated power management (BCD and 700V), and MEMS. Tower Semiconductor also provides world-class design enablement for a quick and accurate design cycle as well as process transfer services including development, transfer, and optimization, to IDMs and fabless companies. To provide multi-fab sourcing and extended capacity for its customers, Tower Semiconductor owns two manufacturing facilities in Israel (150mm and 200mm), two in the U.S. (200mm), two facilities in Japan (200mm and 300mm) which it owns through its 51% holdings in TPSCo and is sharing a 300mm manufacturing facility being established in Italy with ST. For more information, please visit: www.towersemi.com.

About Fortsense
SHENZHEN FORTSENSE CO, LTD , an integrated circuit design company, a national specialization and special new "little giant" enterprise, a national high-tech enterprise, Guangdong Human-Computer Interaction Sensor Engineering Technology Research Center, and the second prize of the Guangdong Science and Technology Progress Award. The unit focuses on the R&D and design of smart sensors and processor chips and the development of supporting algorithms, and is committed to promoting the intelligent upgrade of human-computer interaction technology. Relying on the keen market judgment of the integrated circuit industry, the industry's top chip design and R&D capabilities, the team independently develops chips with broad market prospects and realizable commercial value, customizes chips for first-line brand manufacturers, and conducts debugging, testing, and algorithm verification. We provide high-quality one-stop service to after-sales support. Widely used in automotive, consumer electronics, industrial and other application fields, serving world-renowned manufacturers.

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 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. Tower does not intend to update, and expressly disclaim any obligation to update, the information contained in this release.

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