FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month December 2020 No. 2

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 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 December 15, 2020, the Registrant and OPIX Announce the Successful Development of a World Class iToF Technology Platform for 3D Imaging and Face Recognition 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.

TOWER SEMICONDUCTOR LTD.

Date: December 15, 2020

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

NEWS ANNOUNCEMENT **FOR IMMEDIATE RELEASE**

Tower Semiconductor and OPIX Announce the Successful Development of a World Class iToF Technology Platform for 3D Imaging and Face Recognition Applications

Featuring state of the art performance including multiple depth sensing and distance measurement applications for a broad range of fast-growing markets such as mobile, AR/VR, retail, robotics, and automation

Based on Tower's leading-edge pixel-level stacked wafer BSI technology with enhanced NIR sensitivity

MIGDAL HAEMEK, Israel, and SHENZEN, China, December 15, 2020 – Tower Semiconductor (NASDAQ/TASE: TSEM), the leader in high-value analog semiconductor foundry solutions, and OPIX, an innovative supplier of 3D Time-of-Flight (ToF) image sensor solutions, today announced the successful development of a world class iToF technology platform for 3D imaging and face recognition, featuring multiple depth sensing and distance measurement applications for a broad range of markets, based on Tower's state of the art, pixel level wafer stacking BSI technology.

The newly developed technology is implemented in a high-end image sensor product that is being integrated into a 3D camera module in partnership with a global industry leader of 3D cameras and imaging systems for mobile applications. This three-party collaboration produced a unique sensor product that is perfectly suited to serve a wide variety of fast-growing markets such as mobile, AR/VR, retail, robotics, automation, and industrial inspection.

Utilizing TOWER's 65nm leading pixel-level stacked BSI CIS technology fabricated in its Uozu, Japan facility, as well as Tower's vast expertise in development of iToF image sensor technology, provided an outstanding platform for the design of this cutting-edge performing product, a first in a series of iToF products.

"We are very excited about our collaboration with the Opix team of experts who helped bring to the market this new, world-class iToF technology", said Dr. Avi Strum, Senior Vice President and General Manager of the Sensors and Displays Business Unit, Tower Semiconductor. "This highly advanced technology comprehensively meets the challenging requirements and specifications of a small sized iToF imager and demonstrates our notable capabilities and fervent commitment to provide our customers with market-leading imaging solutions".

The first sensor that is currently being prototyped to customers features a 5µm 3-tap state-of-the-art iToF pixel incorporating a pixel array with resolution of 640x480 pixels. The BSI technology provides excellent sensitivity at NIR wavelengths. In addition, the wafer stacking enables very high modulation frequencies of up to 165 MHz and 30 depth frames per second which results in industry-leading depth accuracy at short, mid and long-range distances even in challenging ambient light conditions by using pulse modulation iToF technique. Advanced features such as multiple acquisition modes,depth with single and dual frequency, low-power standby modes and an industry standard MIPI CSI-2 interface, allow very versatile and flexible operation, providing a cost effective all-in solution, making this product the ultimate choice for various 3D imaging applications, especially in the mobile market.

"At Opix, we worked hard during the past 18 months in order to make this development successful. 3D imaging becomes ubiquitous in all imaging markets nowadays and as a CEO I am very proud to see us competing already on spec level with known solutions of tech giants," said Dr. Xinyang Wang, CEO at Opix. "With our 100% focus and dedication to 3D imaging and support of our partners, we have a strong belief we can play an important role in the coming years to serve the market with innovative solutions for the emerging 3D imaging market."

For more information about Tower Semiconductor's CMOS Image Sensor technology platform, please click here.

For more information about Tower Semiconductor's process technology offerings, please click here or inquire at: info@towersemi.com

For more information about Opix technology and services, please click here.

About Opix

Opix, a fabless IC company with headquarters in Shenzhen, China, is a young and innovative company dedicated to state-of-the-art 3D Time-of-Flight (ToF) CMOS-based digital imaging addressing markets such as consumer applications like mobile phones, industrial automation and various emerging markets where 3D imaging plays a disruptive role. Opix is technically and financially backed up by strong partners who are world leading figures in CMOS design and 3D sensing applications.
Please visit www.opix-opto.com for more information.

About Tower Semiconductor

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), the leader in high-value analog semiconductor foundry 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's 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 Transfer Optimization and development Process Services (TOPS) to IDMs and fabless companies. To provide multi-fab sourcing and extended capacity for its customers, Tower Semiconductor operates two manufacturing facilities in Israel (150mm and 200mm), two in the U.S. (200mm) and three facilities in Japan (two 200mm and one 300mm) through TPSCo. For more information, please visit www.towersemi.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 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.