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**FORM 6-K**

**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

For the month March 2024 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

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**On March 18, 2024, the Registrant Announces Coherent Awards  
Tower Semiconductor as an Outstanding Innovation and Technology Supplier  
for Silicon Photonics based Products**

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**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 18, 2024

By: /s/ Nati Somekh

Name: Nati Somekh

Title: Corporate Secretary

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**Coherent Awards Tower Semiconductor as an Outstanding Innovation and Technology Supplier  
for Silicon Photonics based Products**

*Tower's silicon photonics technology to be deployed by Coherent across multiple data rates for high-speed optical transceivers*

**PITTSBURGH, PA, and MIGDAL HAEMEK, Israel, March 18, 2024** –Coherent Corp. (NYSE: COHR), a global leader in materials, networking, and lasers, and Tower Semiconductor (NASDAQ/TASE: TSEM), the leading foundry of high-value analog semiconductor solutions, today announced that Coherent has recognized Tower Semiconductor as an Outstanding Innovation and Technology Supplier for its silicon photonics based optical transceiver products. This prestigious award recognizes Tower's unwavering long-term commitment to providing the most advanced technology solutions, enabling the development of Coherent's market-leading multiple data rate nodes for high-speed optical transceivers based on Tower's PH18 silicon photonics process technology. According to the Yole Group, the silicon photonics market is expected to grow at 44% CAGR from 2022 to 2028, supporting growth of AI, Data Center, and Network infrastructure.

"We are pleased to work with Tower to integrate silicon photonics into our optical transceivers for AI, datacom, and telecom markets," said Dr. Yajun Wang, senior vice president of Networking Technology at Coherent. "Over the years, Tower has demonstrated an innovative, customer-centric approach, which prompted us to select them for our 'Outstanding Innovation and Technology Supplier' Award. Combined with our world-class vertical cavity surface emitting laser (VCSEL) and InP-based lasers such as EMLs, silicon photonics-based components will enable us to provide a full range of communications solutions to our customers."

Tower's high volume silicon photonics technology offers area-optimized solutions with integrated optical detectors, waveguides, and modulators on a single die, enabling a wide range of applications replacing the assembly of discrete components in optical modules.

"We are greatly honored to receive this recognition from Coherent, an industry leader and strong partner," said Dr. Marco Racanelli, Tower Semiconductor president. "Together, we look forward to enabling best-in-class optical transceiver products today and for several generations to come."

For additional information about Tower Semiconductor's silicon photonics technology offerings, please visit [here](#).

For more information about Coherent's optical transceivers and other products, please visit [here](#).

#### **About Coherent**

Coherent empowers market innovators to define the future through breakthrough technologies, from materials to systems. We deliver innovations that resonate with our customers in diversified applications for the industrial, communications, electronics, and instrumentation markets. Headquartered in Saxonburg, Pennsylvania, Coherent has research and development, manufacturing, sales, service, and distribution facilities worldwide. For more information, please visit us at [coherent.com](http://coherent.com).

#### **About Tower Semiconductor**

Tower Semiconductor Ltd. (NASDAQ/TASE: TSEM), the leading foundry of high value analog semiconductor solutions, provides technology, development, and process 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, displays, integrated power management (BCD and 700V), photonics, 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 facilities in Israel (150mm and 200mm), two in the U.S. (200mm), two in Japan (200mm and 300mm) which it owns through its 51% holdings in TPSCo, a 300mm facility in Agrate, Italy, shared with ST as well as a 300mm capacity corridor in Intel's New Mexico factory. For more information, please visit: [www.towersemi.com](http://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.

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