



## TowerJazz and Lumotive Demonstrate True Solid-State Beam Steering for Automotive LiDAR Systems

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Lumotive logo

### **NEWS ANNOUNCEMENT FOR IMMEDIATE RELEASE**

***New IC is based on Lumotive's innovative Liquid Crystal Metasurface (LCM) technology, enabled by TowerJazz unique process development capabilities***

**MIGDAL HAEMEK, Israel, and Seattle, WA, June 26, 2019** – [TowerJazz](#), the global specialty foundry leader, and [Lumotive](#), the Bill Gates-funded startup developing LiDAR systems for autonomous vehicles, today announced the successful demonstration of the first beam steering ICs for automotive LiDAR systems that are fully solid-state (without any moving parts). Based on Lumotive's unique liquid crystal metasurface (LCM) technology, the advanced IC is expected to deliver superior performance, reliability, and be more compact than competing beam steering solutions while providing longer range, fast response, high resolution, and wider projection angle.

"Lumotive's unique solution to beam steering, based on liquid crystal metasurface technology, enables a truly solid-state LiDAR system with unprecedented range, resolution and frame rate, all crucial requirements for the fast-growing autonomous vehicle market," said Bill Colleran, President & CEO, Lumotive. "Our partnership with TowerJazz enabled us to achieve this important milestone and will allow us to bring our revolutionary technology to production thanks to both companies' highly skilled engineering teams and deep domain expertise."

Lumotive's breakthrough beam-steering ICs uses TowerJazz's 130 nm Cu Back-end-of-Line technology, customized to meet specific optical performance requirements with optimized lithography and custom dielectrics. Lumotive's complete LiDAR system based on this beam steering chip coupled with a custom SiPM (Silicon Photomultiplier) sensor, utilizing TowerJazz's [cutting edge SPAD](#) (Single Photon Avalanche Diode) technology, will be available for prototype testing in late 2019.

"We are excited to announce our unique collaboration with Lumotive on their innovative beam-steering technology to achieve a fully solid-state LiDAR. Our extensive [automotive solutions](#) and development capabilities, ranging from state-of-the-art SPAD technology, best-in-class [power management](#) as well as our advanced [SiGe](#) and [Silicon Photonics](#) (SiPho) platforms, comprehensively support producing a full suite LiDAR system. Our strong presence in automotive radar, battery management and body power controls, along with a long-term customer aligned roadmap, bring the most advanced foundry solutions for the automotive market needs. We have firm confidence in Lumotive's proficiency and vision in this breakthrough solution for the Lidar industry," said Dani Ashkenazi, Vice President and General Manager of Transfer, Optimization and Development Process Services Business Unit ([TOPS](#)), TowerJazz.

Research firm Yole Développement estimates that the ADAS and autonomous vehicle LiDAR markets will grow dramatically in the coming years, increasing from \$721 million in 2018 to \$6.3 billion in 2024, with a CAGR of nearly 45% during that period.

For additional information on TowerJazz's technology, please visit [here](#).

#### **About Lumotive**

Founded in 2018 with funding from Microsoft founder, Bill Gates, Lumotive is a Seattle-based company developing high-performance LiDAR systems for autonomous vehicles. The company's LiDAR solutions leverage revolutionary beam-steering technology based on patented Liquid Crystal Metasurfaces™ to deliver an unprecedented combination of high performance (as measured by range, resolution, and frame rate) and readiness for mass adoption (measured by cost, reliability, and size). Lumotive's beam-steering chips enable this unique combination because they are optically large, enabling high performance, and manufactured with mature semiconductor processes, enabling low cost and high reliability. For more information, please visit [www.lumotive.com](http://www.lumotive.com).

#### **About TowerJazz**

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM) and its subsidiaries operate collectively under the brand name TowerJazz, the global specialty foundry leader. TowerJazz manufactures next-generation integrated circuits (ICs) in growing markets such as consumer, industrial, automotive, medical and aerospace and defense. TowerJazz's advanced technology is comprised of a broad range of customizable process platforms such as SiGe, BiCMOS, mixed-signal/CMOS, RF CMOS, CMOS image sensor, integrated power management (BCD and 700V), and MEMS. TowerJazz 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 that need to expand capacity. To provide multi-fab sourcing and extended capacity for its customers, TowerJazz 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 its partnership with Panasonic Semiconductor Solutions Co. LTD. For more information, please visit [www.towerjazz.com](http://www.towerjazz.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 TowerJazz'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 and Jazz's most recent filings on Forms 10-K and 10-Q, as were filed with the SEC, respectively. Tower and Jazz do not intend to update, and expressly disclaim any obligation to update, the information contained in this release.

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#### **Attachments**

- [Lumotive\\_Final\\_062619](#)
- [TowerJazz and Lumotive Demonstrate True Solid-State Beam Steering LiDAR](#)

