



## TowerJazz Announces Smallest in the World Global Shutter Pixel Ramping to Production on 65nm Platform in its 300mm Japanese Site

January 28, 2019

*State of the art pixel performance suitable for a wide range of industrial and commercial applications, high-end machine vision, face recognition and others*

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**MIGDAL HAEMEK, Israel, January 28, 2019** – [TowerJazz](#), the global specialty foundry leader, today announced its advanced [CMOS Image Sensor](#) (CIS) offering of the world's smallest Global Shutter (GS) pixel ramping to production in its 300mm Uozu, Japan manufacturing facility. This breakthrough achievement, based on the Company's advanced 65nm technology platform and unique light pipe technology, offers superb GS performance with a variety of pixel sizes down to 2.5  $\mu\text{m}$ , which is the smallest pixel size in the world. Global shutter pixels are vastly used in a wide range of applications in some of the world's top developing markets such as: [industrial and high-end machine vision](#), mobile face recognition and commercial applications among others.

Company's leading and unique light pipe (a micro optical structure that funnels the light directly into the photodiode) technology on its 65nm node enables this half area pixel size, as compared with the currently used pixel in the market, while still offering state of the art functionality and superb angular response. Specifically, the most important parameters of global shutter pixels, namely Shutter Efficiency and Quantum Efficiency (QE) are outstanding even at high ray angles (low F#s) thanks to the unique light funneling properties of the per pixel micro light pipe. The smaller pixel size enables smaller imaging area of the sensor, which leads to lower cost and smaller form factor (camera module dimensions) or double the resolution on same imaging area.

World's previous smallest GS pixel, also achieved by TowerJazz, was 2.8  $\mu\text{m}$  in 2016. Several products using this pixel are already in mass production.

"We are proud to announce the world's smallest GS Pixel going into mass production, providing our customers with cutting edge imaging solutions, meeting today's advanced market needs. This break-through achievement strongly demonstrates TowerJazz's continued commitment to offer leading technology as well as unique value proposition, based on its profound technical knowledge," said Dr. Assaf Lahav, TowerJazz Fellow and CIS expert.

TowerJazz will hold a CIS dedicated Technical Seminar in Haifa, Israel on Feb. 26<sup>th</sup>, 2019, in collaboration with the Technion, Israel's Institute of Technology and ACRC, the Advanced Circuit Research Center. During the seminar, TowerJazz will showcase its advanced CIS platform, cutting edge technological solutions and enhanced manufacturing capabilities for a wide range of rising imaging markets. For more information and registration, please [click here](#).

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

For additional information on TowerJazz's industrial and machine vision technology offering, please visit [here](#).

### **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). 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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#### Attachment

- [Press Release \(PDF\)](#)