



## **TowerJazz and PIXELPLUS introduce State-of-the-Art HD and FHD SoC Security Sensor with Unprecedented Performance using TPSCo's Leading 65nm CIS Process Technology**

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**Sensor targeting the booming Security Camera Market, especially in China, and expects to provide TowerJazz with tens of millions growing to over one hundred million in annual revenues**

MIGDAL HAEMEK, Israel, UOZU CITY, Japan and GYEONGGI-DO, Korea, Jan. 11, 2016 (GLOBE NEWSWIRE) -- [TowerJazz](#), the global specialty foundry leader, [TowerJazz Panasonic Semiconductor Co.](#) (TPSCo), the leading analog foundry in Japan, and [PIXELPLUS](#), a leading supplier of image sensors and imaging solutions, announced today they have collaborated to produce a state-of-the-art HD and FHD (full high-definition) SoC security sensor with unprecedented performance using TPSCo's leading 65nm CMOS image sensor (CIS) process. Production is expected to start at the beginning of 2016 at TPSCo's 12" fab in Japan.

PIXELPLUS successfully embedded image signal processing (ISP) and HD-Analog transmission function into one integrated CMOS image sensor (CIS) -- for the first time in the world. Embedding the HD-transmission function into a CMOS image sensor enables image data transmission over coaxial cables to distances longer than 500 meters, but typically it generates a lot of heat and noise which degrade the quality of the image. PIXELPLUS succeeded in combining three separate chips into one CMOS image sensor without degradation of image quality, enabled by using TPSCo's 65nm CIS process.

This breakthrough technology for the security/surveillance market is meeting the needs of a new era of digital data transmission in FHD/HD sensors and due to its very low dark current performance, permits the extremely high performance that is now required by security sensors especially in low light conditions. TPSCo's 65nm process supports high resolution imaging, fulfilling the demand for high definition solutions in the surveillance market. This benefit leads to cost-effective CIS sensors with high quality imaging, helping PIXELPLUS maintain its number one position worldwide in the security/surveillance market, which includes 34% market share in 2014 by dominating VGA. According to a report from Yole, the security sensor market is estimated to grow from \$140 million in 2014 to \$353 million in 2020, a CAGR of 17%.

TPSCo's 65nm CIS process offers higher resolution and sensitivity and low noise architectures compared to competitive processes and will enable PIXELPLUS to expand its business from security/surveillance to various other markets requiring higher resolution such as automotive, industrial and the IoT. TPSCo's 65nm CIS technology supports the needs of image sensitivity, high dynamic range, low dark current and noise ratio for optical sensors used in security and surveillance applications. Extensive experience in the imaging field combined with in-house CIS technology development enables TowerJazz to meet future market requirements of advanced technology in WDR, high speed frame rate, and IR sensor, among others.

"Through our collaboration with TPSCo, we were able to produce an HD and FHD SoC security sensor with unprecedented performance. We are excited to begin production as this type of business growth to FHD/HD is expected to provide us with a significant contribution in revenues and will keep PIXELPLUS on top in the future with the world's best image quality for CMOS image sensors," said Mr. Seo-Kyu Lee, Chief Executive Officer, PIXELPLUS. "Furthermore, we are happy with the close cooperation on development between our R&D team and the pixel experts of TowerJazz, and we have no doubt our collaboration will bring a successful outcome in terms of quality and production volume. We anticipate cooperating with TowerJazz as a strategic partner for additional innovative devices in the future."

"We look forward to expanding our relationship with PIXELPLUS and supporting the expected boom in the security market especially in China where we aim to take a lead position," said Mr. Russell Ellwanger, Chief Executive Officer, TowerJazz and Chairman of TPSCo. "This partnership between PIXELPLUS, TowerJazz and TPSCo combines the utmost in technology, engineering and manufacturing excellence. The leadership of PIXELPLUS in the surveillance market, combined with our best in class 65nm CIS process, enables breakthrough technology which can be applied to other markets requiring higher resolution, such as automotive sensors, in which we also have extensive manufacturing experience."

### **About PIXELPLUS**

PIXELPLUS is a fabless semiconductor company that researches, develops and manufactures image sensors and imaging solutions. Image sensors and imaging solutions hold a promising market growth potential since they can be widely applied and adopted in diverse industries and fields including security, automotive, medical and bioscience. PIXELPLUS has been focusing on security and monitoring camera solutions and automotive camera solutions, and offers total solutions for image sensor-based camera applications by penetrating medical and home application markets in the future. For more information, please visit: [www.pixelplus.com](http://www.pixelplus.com).

### **About TowerJazz**

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM) and its fully owned U.S. subsidiary Jazz Semiconductor, Inc. operate collectively under the brand name TowerJazz, the global specialty foundry leader. TowerJazz manufactures integrated circuits, offering a broad range of customizable process technologies including: SiGe, BiCMOS, mixed-signal/CMOS, RF CMOS, CMOS image sensor, integrated power management (BCD and 700V), and MEMS. TowerJazz also provides a world-class design enablement platform 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), one in the U.S. (200mm) and three additional facilities in Japan (two 200mm and one 300mm) through **TowerJazz Panasonic Semiconductor Co. (TPSCo)**, established with Panasonic Corporation of which TowerJazz has the majority holding. Through TPSCo, TowerJazz provides leading edge

45nm CMOS, 65nm RF CMOS and 65nm 1.12um pixel technologies, including the most advanced image sensor technologies. For more information, please visit [www.towerjazz.com](http://www.towerjazz.com) and [www.tpsemico.com](http://www.tpsemico.com).

#### **About TowerJazz Panasonic Semiconductor Co.**

TowerJazz Panasonic Semiconductor Co., Ltd. (TPSCo) was established by Panasonic Corporation (NASDAQ ADS: PCRFY, TYO: 6752), 51% of which was acquired by Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM) and 49% of which is now held by Panasonic Semiconductor Solutions Co., Ltd. TPSCo has three manufacturing facilities in Hokuriku, Japan which have been producing large scale integrated circuits for over 30 years. Areas of process technology focus include: high dynamic range image sensors (CIS and CCD), integrated power devices (BCD, SOI, and LDMOS) and high frequency silicon RFCMOS. With over 120 qualified silicon process flows on 200mm and 300mm wafers from super micron to 45nm as well as internal back end processing, assembly and test services, TPSCo provides both IDMs and fabless companies with unparalleled semiconductor manufacturing quality and technology, including in-house turnkey services. For more information, please visit <https://www.tpsemico.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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Press release (PDF): <http://hugin.info/167229/R/1977864/724232.pdf>

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