



## **NEWS ANNOUNCEMENT**

**FOR IMMEDIATE RELEASE**

### **TowerJazz's Advanced CIS Technology Powers CMOSIS' New 300 Frames per Second 12 Megapixel Global Shutter CMOS Sensor**

***Total Addressable Market (TAM) for industrial sensors estimated at \$750M; machine vision sensors market estimated at \$200M***

**ANTWERP, Belgium and MIGDAL HA'EMEK, Israel, November 4, 2010** CMOSIS, a leading independent developer and supplier of high end CMOS image sensors for professional imaging applications, and TowerJazz, the global specialty foundry leader, today announced CMOSIS will add a new member to its CMV CMOS image sensor family at VISION 2010: the 12-megapixel CMV12000. The off-the-shelf image sensor is manufactured in TowerJazz's Fab-2 in Migdal Haemek, using its advanced 0.18  $\mu\text{m}$  specialty CIS process. The sensor features 5.5 x 5.5  $\mu\text{m}$  pixels laid out in a high-resolution 4096 x 3072 matrix resembling the APS-C format. CMV12000 offers high sensitivity and low noise, global shutter and a frame rate of 300 fps which provides best in-class performance.

The new CMOS sensor is perfectly suited for a broad range of industrial, movie and TV, traffic monitoring and motion control applications. The Total Addressable Market (TAM) for industrial sensors is estimated at \$750 million, out of which the machine vision sensor market is estimated at \$200 million, according to a report titled, "The Future of Image Sensors Market and Technology Forecasts to 2014," by Roy Szweda. CMOSIS will exhibit in Hall 4/Booth D78 at VISION 2010, the leading marketplace for the international machine vision industry, being held in Stuttgart, Germany from November 9 – 11.

CMOSIS continues to rely on TowerJazz for its products due to its very advanced and proven CMOS image sensor technology that meets the growing demand for optical sensors used in consumer, industrial, medical and automotive applications. TowerJazz's extensive experience in the imaging field, combined with its own CIS technology developed in-house, enables best-in-class customized designs. TowerJazz's process offers superior performance (dark current, low

noise and dynamic range), and its skilled experts support the customization of pixels per customer requirements and project needs, enabling a rich solution for various digital imaging applications.

“We highly value our partnership with TowerJazz and its advanced CMOS imaging technology for our innovative products due to the success we have achieved throughout our collaboration. Due to the maturity of their process technology, combined with the design flexibility that they offer, we are able to realize stronger and more reliable performance,” said Luc De Mey, CMOSIS CEO. “In addition, TowerJazz’s long-term investment in R&D and their excellent technical support keeps us at the cutting edge.”

“By combining our worldwide recognized leadership in CMOS sensors and pixel technology with CMOSIS’ many years of experience in CMOS image sensor design, we are equipped to meet the market’s demanding requirements for leading-edge performance, advanced features and reduced die size and price. Together, we are well-positioned to win a significant share of future industrial and professional CMOS image sensor markets,” said Dr. Avi Strum, Vice President and General Manager of TowerJazz’s Specialty Business Unit.

CMV12000 offers a dynamic range of 60 dB, extendable to 90 dB through several HDR (high dynamic range) operation modes. The sensor pixels have a very low parasitic light sensitivity (1:50,000) enabling high efficiency global shutter operation, which allows the sensor to capture extreme fast moving scenes without image distortion. One of the unique features of CMV12000 is the novel pixel structure, which combines pipelined global shutter operation with correlated double sampling (CDS). This technique, pioneered by CMOSIS, yields an unprecedented low noise level below 13 e<sup>-</sup> and a full well charge of 13,500 electrons. The global shutter CDS also significantly reduces the sensor matrix's fixed pattern noise (FPN) for better image quality.

CMV12000’s on-chip A/D converter can be operated at 8-bit, 10-bit or 12-bit resolution. In the faster 10-bit mode, 300 full frames per second are acquired. At 12-bit, CMV12000 still realizes a frame rate of 180 fps. The sensor’s advanced architecture allows for row windowing and row sub-sampling. Up to 32 separate partial windows can be defined for an accelerated readout. Averaging several pixels raises these frame rates and increases the dynamic range.

The CMOSIS technology portfolio contains crucial IP related to various advanced aspects of image sensors – among them high pixel counts at a high fill factor, high-speed functionality, large bit-depth of column ADCs, high dynamic range, TDI (time-delay and integration)

implementation in CMOS and novel rad-hard pixel concepts.

### **About CMOSIS**

CMOSIS is a pure-play supplier of standard off-the-shelf and application-specific CMOS image sensors for the industrial and professional market covering applications such as machine vision, scientific, medical, automatic data capture and space. CMOSIS was conceived as a fabless CMOS image sensor vendor providing in-house design, characterization and qualification facilities for research, development and volume production. CMOSIS currently employs almost 30 people and is headquartered in Antwerp, Belgium.

### **About TowerJazz**

Tower Semiconductor Ltd. (NASDAQ: [TSEM](#), TASE: TSEM), the global specialty foundry leader and its fully owned U.S. subsidiary Jazz Semiconductor, operate collectively under the brand name TowerJazz, manufacturing integrated circuits with geometries ranging from 1.0 to 0.13-micron. TowerJazz provides industry leading design enablement tools to allow complex designs to be achieved quickly and more accurately and offers a broad range of customizable process technologies including SiGe, BiCMOS, Mixed-Signal and RFCMOS, CMOS Image Sensor, Power Management (BCD), and Non-Volatile Memory (NVM) as well as MEMS capabilities. To provide world-class customer service, TowerJazz maintains two manufacturing facilities in Israel and one in the U.S. with additional capacity available in China through manufacturing partnerships. 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 Tower and/or Jazz'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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#### **For Tower:**

##### Company Contact:

Melinda Jarrell  
(949) 435-8181  
[melinda.jarrell@towerjazz.com](mailto:melinda.jarrell@towerjazz.com)

##### Media Contact:

Lauri Julian  
(949) 715-3049  
[lauri.julian@towerjazz.com](mailto:lauri.julian@towerjazz.com)

##### Investor Relations Contact:

Noit Levi  
+972 4 604 7066  
[noit.levi@towerjazz.com](mailto:noit.levi@towerjazz.com)

#### **For CMOSIS:**

##### Company & Media Contact:

Tim Baeyens  
+32 3 260 17 33  
[tim.baeyens@cmosis.com](mailto:tim.baeyens@cmosis.com)