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Image Sensor Market Set to Bounce Back After Rare '07 Slump

IC Insights' new O-S-D Report forecasts 14% average annual growth during next five years

After a rare setback in 2007, the worldwide image sensor market is expected to regain growth momentum in 2008 and increase by 10% to a record high of nearly \$7.6 billion from about \$6.9 billion last year, according to IC Insights' new 2008 *O-S-D Report—A Market Analysis and Forecast for Optoelectronics, Sensors/Actuators, and Discretes*.

CMOS image sensor sales are forecast to rise 19% in 2008 to \$4.4 billion after falling 12% in 2007, while charge-coupled devices (CCDs) are expected to decline 1% in 2008 to \$3.2 billion compared to 0% growth in 2007, based on the new *O-S-D Report's* forecast. This year's image sensor recovery will provide a lift to overall optoelectronics sales, which are now forecast to grow 10% in 2008 to \$17.5 billion after declining 2% in 2007, according to the *2008 O-S-D Report*. Image sensors account for about 43% of optoelectronics sales, as defined by the WSTS industry organization.

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Rocky market conditions shook up the top supplier rankings in CMOS image sensors in 2007. OmniVision, with a 34% increase in sales last year, regained the top position among CMOS image sensor suppliers in 2007 after falling to third place in 2006. Micron fell from first to second place in 2007, and STMicroelectronics dropped from second to third. Micron's CMOS image sensor sales dropped 26%, while ST's revenues fell 29% (Figure 1).

In 2007, combined sales of CCD and CMOS image sensors declined 7%, primarily due to inventory corrections in camera phones during the first half of the year and some weakness in industrial and office equipment applications, such as machine vision for manufacturing systems and optical scanners in copiers and computer peripherals. The 2007 drop was the image sensor market's first annual decline since the 2001 semiconductor downturn.

Between 2002 and 2007, overall image sensor sales rose by a compound annual growth rate (CAGR) of 35%, driven by the explosion of CMOS-based camera cell phones and CCD-dominated digital still cameras. For the 2007-2012 forecast period, IC Insights is projecting sales will rise by a CAGR of 14% per year, which will push total image sensor revenues to \$13.2 billion in 2012. Image sensor growth rates are

easing back in camera phones and digital still cameras as those end-use applications mature and markets become saturated. In the next five years, double-digit image sensor growth will hinge on new and emerging applications, such as embedded cameras in portable computers, next-generation "hybrid" video/still-picture cameras, automotive-imaging safety systems, medical uses, toys and video games, and wireless video-security networks. All of these potentially high-growth applications will require CMOS technology, which can integrate pixels cells with image-processing functions on a single chip while supporting lower power consumption compared to CCDs.

Despite losing some ground in 2007, CMOS image sensors will continue to grab more marketshare from CCDs in the coming years. IC Insights' new *O-S-D Report* estimates that CMOS will account for 58% of image sensor sales in 2008 compared to 53% in 2007 and 46% in 2004. In 2012, CMOS devices are expected to represent 73% of total image sensor sales and 83% of total imager unit shipments.

Top 5 CMOS Image Sensor Suppliers

| 2007 Rank | 2006 Rank | Company | 2007 Sales* (\$M) | 07/06 % change |
|-----------|-----------|------------|-------------------|----------------|
| 1 | 3 | OmniVision | \$725 | 34% |
| 2 | 1 | Micron | \$625 | -26% |
| 3 | 2 | ST | \$439 | -29% |
| 4 | 4 | Toshiba | \$430 | -4% |
| 5 | 6 | Sony | \$365 | 12% |

*Sales include revenues from camera module products.

Source: IC Insights

Figure 1

Report Details

With more than 250 pages and over 195 charts, graphs, and illustrations, the *2008 O-S-D Report* is available for \$2,190 in CD-ROM or three-ring binder format, or for \$2,685 as a bundled CD-binder set. An Internet access password is available as a \$695 option. For company-wide use, a multi-user corporate license costs \$5,490 and comes with a CD, binder, and Internet access password.

About IC Insights

IC Insights, Inc., based in Scottsdale, Arizona USA, is dedicated to providing high-quality, cost-effective market research for the semiconductor industry. Founded in 1997, IC Insights offers coverage of global economic trends, the semiconductor market forecast, capital spending and fab capacity trends, product market details, and technology trends, as well as complete IC company profiles and evaluations of end-use applications driving demand for ICs.

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