

Strong Growth for Semiconductor Equipment in Advanced Packaging Market Says The Information Network

New Tripoli, PA, July 19, 2011 . . . Advanced packaging is currently growing at a 18% compound annual rate, and equipment manufacturers will be major beneficiaries according to the report *Lithography and Etch Market Analysis for Flip Chip manufacturing*, recently published by The Information Network (www.theinformationnet.com), a New Tripoli, PA-based market research company.

"Our leading indicators are pointing to a downturn in semiconductor equipment sales for the second half of 2011 and through 2012," noted Dr. Robert Castellano, President of The Information Network. "These data are corroborated by SEMI's (Semiconductor Equipment and Materials International (SEMI) is a trade organization of manufacturers of equipment and materials used in the fabrication of ICs) recent mid-year consensus forecast"

But all semiconductor equipment markets are not created equal, and there is a sector market that equipment vendors, large and small, public and private, have in their crosshairs that is projected to show strength while the rest of the equipment market falters – flip chip technology, an advanced form of packaging of ICs. The stakes are big. Total flip chip sales represented 11% of worldwide IC production in 2010 but will grow to more than 18% in 2015. Flip chip comprised only 5% of IC production in 2005.

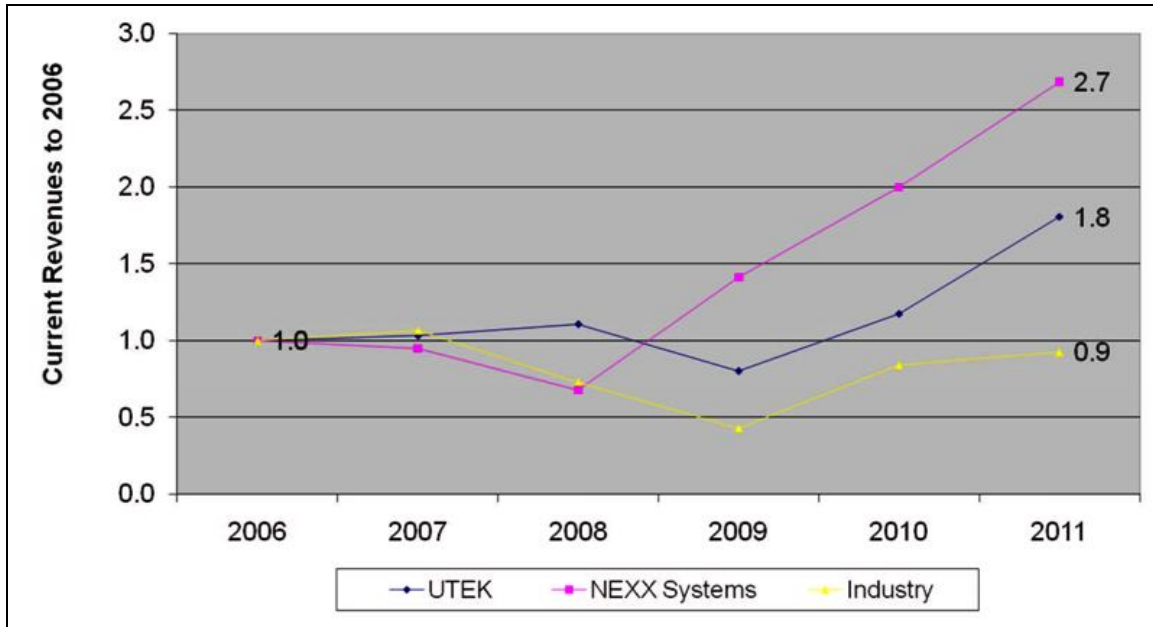
Intel (INTC) is the leader in the industry, followed by Chipbond Technology (TPO: 6147), TSMC (TSMC), Samsung (005930.KS), NEPES Corp. (033640:KOSDAQ), and ASE (ASX).

As I said above, equipment vendors are taking advantage of the booming market. Estimates are that the front-end (before the flip chip packaging steps) will exhibit a compound annual growth rate (CAGR) of 4% between 2010 and 2013. In contrast, sputtering and copper electrodeposition equipment, main sectors of the flip chip equipment market, will exhibit a CAGR of 17%.

Already companies have made strategic investments in developing equipment for flip chip. Lam Research (LRCX) purchased SEZ in 2008, while Applied Materials (AMAT) purchased Semitool in 2009. Ultratech's (UTEK) CFO Bruce R. Wright noted in his Earnings Call April 21, 2011 that "at this time, we believe revenue growth [in 2012] could be on the order of 40% sequentially over 2011" Ultratech is a leading supplier of lithography equipment for flip chip technology.

In researching further the market for flip chip technology, the chart below shows UTEK's revenues for its equipment normalized to 2006 in comparison to front-end equipment and privately held NEXX systems. Interestingly, despite growth of 148% in 2010 according to SEMI, semiconductor equipment through 2011 is projected to

reach only 90% of 2006 levels of revenue. UTEK through Q1 2011 has grown 1.8 times its revenue of 2006. NEXX Systems, according to their S-1/A filing of June 2011, has exhibited revenue growth 2.7 times their 2006 revenue. NEXX sells deposition equipment.



Why is flip chip projected to grow so strongly? It is widely understood that flip chips offer a variety of benefits compared to traditional wire-bond packaging, including superior thermal and electrical performance.

In the world of high-speed/high-performance IC and package design, flip chips are appearing in a plethora of high-volume consumer products such as mobile phones, digital cameras, MP3 players, and computing. In Apple Computer's (AAPL) iPad, 20% of the ICs on the motherboard are made up of flip chip packages. The same percentage holds for the Motorola (MOT) Android. For mobile devices, the market is projected to grow at a CAGR of 30%, from a little more than 500 million ICs in 2010 to 1.9 billion in 2015 – a huge growth rate compared to less than a 10% growth rate for overall ICs.

The Information Network is a leading consulting and market research company addressing the semiconductor, LCD, HDD, nano, and solar industries.

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