



Uncertainties mark semicon, HDD

by by Kirtimaya Varma, Editor-in-Chief, Reed Electronics Group Asia

ECN

<http://www.ecniamag.com/article.asp?id=6803>

The semiconductor revenue forecast for 2006 is in a mess, as it was for 2005 an year ago. There is such a wide diversity in growth projections offered by analysts that one can hardly make sense out of the figures. Look at some of these: VLSI Research projects a growth of -8.7 percent; Henderson Ventures, -1.9 percent; iSuppli, 3.9 percent; WSTS, 5.2 percent; IC Insights, 5.6 percent; Future Horizons, 6.0 percent; Gartner- Dataquest, 8.1 percent; SIA, 8.8 percent; and Semico Research, 18.0 percent. A projection sweeping over such a wide range as from -8.7 percent to +18.0 percent does not help anyone with useable information for planning. The market analysis industry needs to seriously look at the business and technicalities of forecasts if forecasting should have a semblance of realism for the industry. Lest we forget, the severe downturn of 2002-03 was partly caused by great expectations created by rosy forecasts that proved grossly incorrect.

Be that as it may. I, for one, feel that more interesting than semiconductors to watch out this year is the hard disk drive industry. I would say that we are on the threshold of the most significant HDD transition at least in the last one decade: The industry is on the verge of introducing one inch drive with 20 GByte of storage. This transition holds a great promise for consumer electronics products. HDD Perpendicular Recording Various technologies are being tried to achieve such storage density. Hitachi Global Storage Technologies, for instance, is using a technology called perpendicular recording, which, the Company claims, can increase density by 10 times. Current hard disk drives use what is called longitudinal recording. In perpendicular recording, data bits are aligned at 90 degrees to the plane of the recording medium. A concomitant of recording more data into a given space is that the recording head must be closer to the recording medium. For 20 Gbytes, the head will be within 10nm of the platter. The technology to achieve such proximity is said to be in an advanced stage of development. While on the one hand HDD technology is evolving, on the other hand some believe there is a lingering uncertainty about survival. When Apple decided not to use HDD as storage in its new line of MP3 players, and use NAND-type Flash memory instead, speculation was rife that this signaled the beginning of the end for HDD, at least in the consumer segment. In an earlier editorial (November 05), I had warned HDD makers planning production capacity rise to "move cautiously."

With more hindsight now available, it seems that NAND Flash memory usurpation of HDD may not have as great an impact on the latter as earlier feared. HDD is making some headway in other consumer applications, such as camcorders, digital cameras, handheld video players, set-top boxes, printers, televisions and digital video recorders. Besides, with the advent of serial drive interfaces, newer applications are emerging for HDDs in the enterprise-computing segment, using Serial Attached SCSI (SAS) and Serial ATA (SATA) as substitutes for traditional SCSI and ATA drives. It is a moot point for how long Flash will not encroach upon these territories and start eroding HDD. iSuppli believes that in spite of loss of some markets, HDD will show steady growth till 2009, with the bulk of revenues coming from computing applications. As per an Intel-ST study, in 2006 NAND will win in the 1 to 4 Gb space, while SFF-HDD, in the 4 GB+ space. However, in the year 2008, NAND will stretch its winning reach to as high as 16 Gb, with SFF-HDD becoming limited to very large data storage above 16 Gb.

DRAM Market

The NAND Flash dynamism is sure to impact DRAM market, but there are uncertainties as to the nature of impact. I think the impact hitherto has been less detrimental to DRAM than what some analysts had feared when major memory makers started shifting production lines from DRAM to NAND Flash. Samsung and Hynix sell both DRAM and NAND Flash, and can change lines between the two products, depending upon which product offers better margins. Samsung is known to have shifted a significant portion of its DRAM production capability into NAND flash. However, such diversion has not adversely affected DRAM market. In 2005, DRAM shipments have been projected to have grown by 55.7 percent, as per iSuppli. DRAM suppliers who don't sell NAND Flash or have very limited interest in this kind of memory— Elpida, Nanya, Infineon and Inotera—are increasing their production this year.

I see some interesting uncertainties in Intel-AMD duopoly duel. With notebooks now making one-third of PC sales, and their proportion growing, AMD is gaining steady advantage over Intel. In the high-margin notebook space, its Turion 64 is showing record sales, while Intel's Centrino seems to be slipping. Indeed, in October last AMD eclipsed Intel first time ever in retail market share of consumer PCs and laptops, with 49.8 percent PCs sold in the U.S. retail market using AMD processors as against 48.5 percent using Intel's, according to a report from market research firm Current Analysis. While AMD is emerging stronger and more confident than ever before, Intel seems to be staggering in doubt. Intel has announced that it would delay launching Montecito processor and cancel the launch of Whitefield processor.

AMD is gaining over Intel even in the server MPU market. Analyst Prudential says that AMD has continuously gained in server market share in the last three quarters of 2005 and will continue to gain, and control as much as 24 percent market share by 2006 end. This is not to say that David AMD is all set to take on the Goliath Intel. Intel's revenue is almost seven times larger than AMD's. In the overall microprocessor market, Intel still has a whopping 80 percent share as against AMD's 18 percent. However, taking into account the fact that two-three years ago some analysts had predicted that AMD was on its last legs, AMD has shown a remarkable potential to post surprises. More surprises may be on the way.

© 2005, Reed Business Information, a division of Reed Elsevier Inc. All Rights Reserved.