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Solid State Drives (SSD) Markets and Applications

Quarterly Series

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Executive Summary

The first quarter report series updated the yearly SSD Market and Applications Report and provided a market update on the emerging low cost PCs from OLPC, Intel , Asus, Acer and others that are using SSDs in these platforms.

This second quarter report focuses on SLC and MLC NAND flash technology that is utilized in SSDs. It explores the fundamental differences between the two technologies highlighting the attributes of each and how these technologies are adopted for use in SSDs for the various applications. Also discussed is the market growth of each technology and its relative contribution to the overall SSD market.

Key findings in this report are; MLC SSDs will dominate the landscape of SSD unit and revenue growth. This is primarily driven by the tremendous growth of SSDs in low cost mobile PCs and traditional notebook PCs. The rate of NAND price erosions continue to make this technology attractive in personal computing. Adding the cost advantage of MLC SSDs over SLC SSDs in mobile computing will help accelerate the adoption of SSDs in this platform. The recent advancements of controller technology have normalized the disadvantages of MLC technology in personal computing making MLC SSDs the standard design-in for this platform.

On a unit, revenue and terabyte basis, growth of MLC SSDs dwarfs SLC SSDs. SLC SSDs will continue to be the choice in enterprise, industrial, military and other commercial applications for its inherent advantages over MLC SSDs in these segments.

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Analysis and Reporting Methodology

The report analyzes the potential of the semiconductor storage technologies, in conjunction with the magnetic storage technologies. The report also assesses future developments of the storage industry and quantifies the different aspects of market growth from 2006 through 2012. It takes into consideration economic and technology changes underway.

Because of the growing complexity and scope of the data storage industry and markets, there is a need to put the qualitative and quantitative aspects of the development trends into a broader perspective. Therefore, this report considers the technological, commercial and application development aspects of the storage industry. In particular, it explores, in general terms, the evolution of storage needs and requirements in the computing, communications and consumer industries.

Relevant primary data and information were collected from discussions with industry and company representatives. Secondary data and information have been obtained from public sources, such as company documents, press releases, annual reports and industry statistics, as well as from the existing Web-Feet Research database. Historic data have been crosschecked and correlated with industry statistics. Forecast data and their interpretation are based on analyses and assessments of Web-Feet Research.

The report is organized on two logic levels, which are not physically separated. One level describes the development trends of relevant technologies, standards and systems. It also takes into consideration how macroeconomic factors impact these trends. The resulting information is used to create models and assumptions for the analyzed markets. The other level forecasts the qualitative and quantitative development of the markets through 2012, by using the collected data and by factoring in the created models and assumptions. The understanding of the models and assumptions also helps the reader to adjust the forecast whenever the market environment and development trends modify the assumptions.

Whenever information and data were not provided or were not possible to obtain due to confidentiality concerns, an estimate of the total market has been developed. The estimates have been done by developing the identity and the character of the surveyed market segment. Additionally, use was made of a surrogate development model applicable to known similar market segments, in correlation with specific market drivers, accelerators and inhibitors.

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About Web-Feet Research

Web-Feet Research (WFR) is a professional services organization that assists clients in the semiconductor, electronics and finance industries build value, solve complex business problems, and enhance their ability to improve performance.

The company has consistently identified the emerging trends in the electronics industry and has been the first to forecast their impact in the Flash and nonvolatile memory markets since its inception in 2000. Some of WFR's firsts are in the following areas: SSD, Flash cache/Hybrid Flash, Embedded Flash Drives, Ultra Low Cost PC, Mobile storage, MP3, NAND MCP, USB Drives, Flash SIM cards, micro Flash cards, and serial NOR Flash.

The company offers a full complement of technology consulting services, management consulting services and market research for nonvolatile memory, solid state storage technologies and mobile hard disk drive products. Special emphasis has been focused on the development and growth of Flash memory, Flash cards and SSD markets.

The subscription services offered by Web-Feet Research concentrate on the Non-Volatile Memory and Storage Portfolio, which is segmented into three services: Manufacturing / Technology, Storage Systems, and Memory Components.

The company also organizes annual public and on-site presentations, the NVM conferences, which supplement the consulting and research services. These conferences focus on technology evolution, product development, storage markets and industry / economic trends.

Web-Feet Research also provides custom studies, technology evaluation and competitive analyses of mobile, portable and stationary technologies, products and industry trends. The professional services and syndicated studies give Web-Feet Research, its clients and its clients' clients a competitive edge in their respective markets.