Global and China Semiconductor Equipment Industry Report, 2011-2012

Apr. 2012

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STUDY GOAL AND OBJECTIVES

This report provides the industry executives with strategically significant competitor information, analysis, insight and projection on the competitive pattern and key companies in the industry, crucial to the development and implementation of effective business, marketing and R&D programs.

REPORT OBJECTIVES

- To establish a comprehensive, factual, annually updated and cost-effective information base on market size, competition patterns, market segments, goals and strategies of the leading players in the market, reviews and forecasts.
- To assist potential market entrants in evaluating prospective acquisition and joint venture candidates.
- To complement the organizations' internal competitor information gathering efforts with strategic analysis, data interpretation and insight.
- To suggest for concerned investors in line with the current development of this industry as well as the development tendency.
- To help company to succeed in a competitive market, and

METHODOLOGY

Both primary and secondary research methodologies were used in preparing this study. Initially, a comprehensive and exhaustive search of the literature on this industry was conducted. These sources included related books and journals, trade literature, marketing literature, other product/promotional literature, annual reports, security analyst reports, and other publications. Subsequently, telephone interviews or email correspondence was conducted with marketing executives etc. Other sources included related magazines, academics, and consulting companies.

INFORMATION SOURCES

The primary information sources include NBS(National Bureau of Statistics of China), Wind, and Ministry of Industry and Information Technology of the P.R. China etc .

Abstract

In 2011, the CAPEX of semiconductor industry were about USD65.8 billion, up 14.3% compared with that in 2010, among which, the CAPEX on equipment stood at about USD44 billion, with a year-on-year increase of 8.0%. It's estimated that, in 2012, the CAPEX on equipment will reach USD38.9 billion, among which, the expenditure on wafer fab equipment will be USD31.3 billion, a decrease compared with that in 2011. A main reason is that the CAPEX on wafer fab equipment in 2010 increased by 127.1% compared with that in 2009 and continued to grow by 13.3% in 2011, therefore, its drop in 2012 is normal.

In 2012, the semiconductor companies CAPEX over USD5 billion will still be Intel, Samsung Electronics and TSMC. Intel invested over USD5 billion to build Fab 42, the world's first fab engaged in the mass production of 14nm node. In addition, it invested in D1X, a R&D fab for 14nm node process. Intel will continue to lead the semiconductor industry.

Samsung Electronics plans to spend USD13.4 billion, which is the highest CAPEX in the global semiconductor market. 40% of the CAPEX will be invested in DRAM and NAND memory, including the well-known NAND factory in Xi'an, China. About 50% of the CAPEX will be invested in System LSI, mainly including foundry and AP business. Apple A5 is its major foundry product, so will be A6. Both A5 and A6 are very similar to Samsung's AP, so there is no risk of technology leakage for Apple to choose Samsung as its foundry. In order to get recognition from Apple, Samsung will produce A5 and A6 in the U.S.-based S1 factory, and will invest USD1 billion to expand the capacity of S1 factory.

The 28nm process of TSMC is the world's most advanced semiconductor production technology except that of Intel, so its clients are willing to order in cash in advance and its orders have been arranged till the end of 2012. TSMC originally planned to invest USD6 billion in 2012, but recently, it announced that it would probably raise CAPEX to USD7 billion to ease the pressure on capacity.

The semiconductor equipment market is highly concentrated, and the share of the largest manufacturer in corresponding sector usually exceeds 50% or even 90%. For example, Applied Material's market share reaches 93% in the CMP (chemical vapor deposition) sector, and its market share in the PVD (physical vapor deposition or sputtering) sector is 83%. Even the second largest manufacturer may not be able to survive long, so there have been frequent mergers and acquisitions in semiconductor equipment industry. In November 2010, Applied Materials finished the acquisition of Varian Semiconductor Equipment Associates with USD4.9 billion, aiming to strengthen its competitiveness in the field of ion implantation.

At the end of 2011, Lam Research merges Novellus Systems with stock valued about USD3.3 billion. Lam Research occupies 55% of the Etch market, while Novellus holds 80% of the ECD market. The two companies merged to provide customers with a more integrated product line. In April 2011, Japan's Advantest purchased Singapore's Verigy, greatly expanding its capability of SoC testing. In October 2011, Teradyne entered wireless product testing market through acquiring LitePoint.

Global Top 15 Semiconductor Equipment Vendors by Revenue, 2008-2011 (Unit: US$M)

Ranking	Company	2008	2009	2010	2011
1	ASML	4367	2268	5976	7551
2	Tokyo Electron	4343	2324	5827	5802
3	Applied Materials	4005	1960	5304	5415
4	KLA-Tencor	2112	1323	2893	2876
5	Lam Research	1904	1198	2952	2804
6	Dainippon Screen	1141	1105	2160	2105
7	Nikon	1742	787	1168	1646
8	Advantest	884	416	1135	1547
9	ASM International	961	690	1205	1443
10	Teradyne	925	552	1565	1429
11	Novellus Systems	970	582	1308	1319
12	Hitachi High-Technologies	1056	474	1093	1139
13	Varian	687	396	1088	1096
14	Hitachi Kokusai Electric	361	268	700	838
15	Kulicke & Soffa	328	225	763	830

source:Global and China Semiconductor Equipment Industry Report, 2011-2012

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