

Research Report on China's Integrated Circuit (IC) Industry, 2013-2017

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Abstracts

Entering the 21st century, China's IC industry steps into the rapidly growing period. From 2000 to 2007, China's IC industry maintained the rapid growth, with the average annual growth rate of 31.3%. Although it was shocked by international financial crises which resulted in two consecutive negative growths in 2008 and 2009, the growth rate of the IC industry gradually recovers after 2010. On the whole, the average annual compound growth rate in the decade from 2001 to 2010 reached 22.7%. China becomes one of the countries with the rapidest growing IC industry in the world. By 2011, the size of China's IC industry achieved CNY 157.2 billion, with the proportion further increasing to 9.8% in the global IC market.

In recent years, China's IC design industry swiftly develops, with the industrial proportion rising from 17.7% in 2005 to 30.1% in 2011. In 2011, Hisilicon and Spreadtrum separately ranked the sixteenth and seventeenth in IC design enterprises globally. The proportion of chip manufacturing maintained about 1/3. The chip OEM industry rapidly develops. Semiconductor Manufacturing International Corporation (SMIC) was listed as the fourth in pure semiconductor OEM enterprises globally in 2011. As for packaging enterprises, Jiangsu Changjiang Electronics Technology Co., Ltd. ranks among the top 10 packaging & testing enterprises in the world.

In past years, China's IC market always moved forward at the growth rate substantially higher than that of global semiconductor market, which becomes the largest IC market in the world. By the end of 2011, the market share proportion of China's ICs in the global market was 50.5%.

Although the development of China's IC industry tended to be slow in 2011, it still realized the increase of 9.2% YOY. In fact, China's IC market always moves forward at



the growth rate higher than that of global integrated industry since 2005. During 2005 and 2011, the average annual compound growth rate of China's IC industry was 14.4%. However, in terms of the application market of the industry, it was noticed that the average annual compound growth rate of China's IC market demand also achieved 13.3% during 2005 and 2011. The growth of market demand offsets against China's industrial development. The situation that "80% of China's IC chips depend on imports" will not change in the short term. In 2011, the import value of China's ICs reached USD 170.2 billion, accounting for 22.6% of total import value of China's mechanical and electrical products. It is continuously the domestic product with the largest import value, with continuously widened import & export deficit, reaching USD 137.63 billion.

The development of the industry throughout cannot keep pace with the growth rate of domestic market. The largest deficit in import & export trade indicates that the overall strength of China's IC industry is rather weak.

The rapid growth in China's IC design industry leads to the continuously expanded demand for domestic chip OEM. In 2011, the size of China's IC design industry reached CNY 47.37 billion, with the average annual compound growth rate of 41.4% in the decade, which was far higher than the growth rate of China's other industries and global industries. The rapid development of design industry scale creates huge markets for chip OEM. In 2011, the demand amount of OEM in China's IC design industry was over USD 2 billion, exceeding the OEM revenue of Samsung in the whole year. At present, the business revenue of special technology foundries such as Huahong, NEC (including Shanghai Grace Semiconductor Manufacturing Co., Ltd.) and CSMC Technologies Corporation are mainly from domestic IC design clients. Among the OEM business of SMIC, design enterprises account for an increasingly high proportion. In 2011, the growth rate of orders in domestic design enterprises was over 20%.

Although China's IC design industry raises large demand for chip OEM, China's chip OEM industry faces two bottlenecks in technologies and investments which cannot fully fulfill the domestic market demand. Over half OEM demand of China's IC design industry is undertaken by foundries such as Taiwan Semiconductor Manufacturing Co., Ltd. (TSMC), UMC and Global Foundry out of the mainland China. TSMC accounts for the largest share of OEM market in mainland China. In 2011, the domestic client proportion of SMIC drastically increased, but the revenue proportion of domestic client business was only 32.7%. Chip OEM business by 0.18um-65nm processes accounted for nearly 90% of SMIC revenue. Moreover, chip OEM business by high-end 45nm-40nmprocesses is nearly undertaken by other foundries completely. Domestic integrated design enterprises generally seek for overseas OEM mainly because of gaps



in chip production techniques and reliability. In addition, the less investment amount in manufacturing is a retraining factor. The gradually widened technological gaps and insufficiency in continuous investments cause the proportion of China's IC manufacturing in global industries to continuously reduce. The proportion of China's IC manufacturing in the top 15 manufacturers globally dipped from over 9% in 2008 to less than 7% in 2011.

In addition, China's IC design enterprises are characterized with generally small scales, scattered distribution and severe homogenization which also cause barriers to M&A. The majority of small-sized enterprises are only satisfied with the market development of low-end products, lacking strategic goals and long-term plans. A substantial part of enterprises do not adapt to the change in business modes internationally.

China owns the largest consumer group of electronic terminals, manufacture base of complete electronic appliances and IC consumer market in the world. With the sustainable development of China's economy, there are lots of opportunities for the development of China's IC industry in recent years.

More following information can be acquired through this report:

Supply and Demand of China's IC Industry

Technological Conditions of China's IC Industry

Competition in IC Industry

Key Enterprises and Operation of China's IC Industry

Prediction on Development Trend of China's IC Industry

Following people are recommended to buy this report:

IC Design/Manufacture/Packaging & Testing Enterprises

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Computer, Communication and Consumer Electronic Manufacturers



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