



Global and China LED Industry Report, 2011-2012

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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 National Bureau of Statistics of China, Wind, and Ministry of Industry and Information Technology of the P.R. China etc .

Abstract

It is in the report that covers the followings:

- ✿ The recent development and future trend of LED market
- ✿ LED industry ranking
- ✿ LED industry in Chinese Mainland and Taiwan
- ✿ Status quo and trend of LED upstream MOCVD and sapphire substrate industry
- ✿ The world's 37 major LED manufacturers

The year 2010 was the springtime for LED industry, but 2011 was the wintertime. For most manufacturers, the cold winter may last until 2013 or 2014. Since 2009, the notebook computer, monitor and TV have started to adopt LED backlight unit (BLU) to replace old CCFL BLU. In 2010, the market grew by leaps and bounds and many enterprises saw their annual revenue soar more than 100%, which staged a tidal wave of capacity expansions among LED manufacturers and attracted a large number of Chinese enterprises to tap into LED area. All this resulted in the falling price of LED. In particular, the front-end Epitaxy suffered a steep drop in price. And the back-end packaging companies also showed a mild downturn in revenue, but a larger decline in profit.

The global LED industry is concentrated in four regions. The first region is Europe-America which takes general lighting as the main development direction and attaches great importance to high reliability and high brightness of the products. The major players include Cree, Philips Lumileds and OSRAM Opto Semiconductor, of which Cree occupies the leading position in the general lighting market by virtue of its SiC substrate technology with superior performance.

The second is Japan which boasts the most comprehensive technologies both in general light and backlit display. The representative companies are Nichia Corporation and Toyoda Gosei and they engage in the development of LED in such sectors as general lighting, automobiles, mobile phones and televisions.

The third includes South Korea and Taiwan which specialize in notebook display BLU, LED-Monitor BLU, LED-TV BLU and mobile phone BLU, featuring large shipment, low unit price and low gross profit.

The last one is Chinese Mainland which focuses on outdoor display, advertising screen and signal light market. The applications pose low requirements on the product technologies and appear in the form of project, with the customers scattered.

The reasons why the manufacturers in Chinese Mainland can only produce the red, yellow and green LED with the minimum technical content are as follows. Firstly, there is a shortage of LED talents. Nearly all the manufacturers in Chinese mainland grab talents from Taiwanese companies with higher salaries. Secondly, the patents for blue LED and WLED are mostly controlled by Japanese, European and American manufacturers. Particularly, Nichia secures the most patents and often pursues patent lawsuits. The third is the authority for procurement. Although the Chinese Mainland is the world's largest producer of laptop computer, monitor and LED-TV, the procurement authority for 99% of these LED backlight products belongs to the manufacturers from Taiwan and South Korea. The manufacturers in Taiwan and South Korea will select LED suppliers in Taiwan and South Korea with respect to the management of supply chain.

The LED price declined substantially in 2011. On the one hand, the capacity expansion of manufacturers led to the market oversupply. On the other hand, the shrinking shipment of LED-TV in Q2 2011 and the adoption of LED chip with higher brightness reduced LED consumption. The enterprises in Taiwan and South Korea were hardest hit by the declining price.

Since 2009, the LED industry in Chinese Mainland has witnessed a wave of investments which continued to the end of 2011. The number of LED chip projects initiated between 2009 and 2010 amounted to 46, 16 of which have not gone into operation, 10 of which have been cancelled or seen no progress, and only 20 projects have been put into production. The original 46 projects plan to buy 1,220 MOCVDs, now only 436 MOCVDs are purchased.

Though there are a number of LED enterprises in Chinese Mainland, they do not pose any pressure on foreign companies for the time being. China's largest LED enterprise, Sanan Optoelectronics derived USD180 million from LED chips in 2011, ranking No. 19 worldwide.

However, the LED lighting which the LED manufacturers are optimistic about is by no means promising as expected. There is large disparity between the price of LED and CFL. Except in Japan, even the price of lowest-priced LED bulb is about 5 times higher than that of CFL. In most regions, the sales of INCAN will be halted from 2012 to the end of 2015, but the CFL will be applied until 2020 at least. CFL, other than INCAN, is the rival of LED. LED is expected to be widely applied as early as in 2015 when the price difference between CFL and LED narrows within twice.

Japan has the largest LED lighting market. Taking LED bulbs for example, the global sales volume reached 41 million units in 2011, of which the sales volume in Japan accounted for 62%, and Europe made up 16%. Fueled by the boom of Japanese market, Nichia continues to widen the gap with its rivals and its revenue from LED chips is estimated to surpass USD3 billion. Dragged by the European economy, Lumileds and OSRAM Opto Semiconductor present weak performance. Moreover, they still lag far behind Cree, Nichia and Toyoda Gosei in technology level.

Top 27 LED Companies by Revenue, 2010-2012

(Unit: Million USD)

Companies	2010	2011	2012 E
NICHIA	2246	2605	3208
SAMSUNG LED	1140	1148	1262
CREE	818	988	1138
LG INNOTEK	783	818	828
OSRAM Opto	822	780	808
Seoul Semiconductor	726	678	795
LITEON	514	536	655
Everlight	553	633	630
Epistar	626	601	621
Toyota Gosei	438	395	600
Lumileds	...	...	...
SHARP	...	...	...
Lextar	...	...	...
Kingbright Electronics	...	...	...
Optotech	...	...	...
Unity Opto	...	...	...
CITIZEN	...	...	...
Wellpower Optronics	...	...	...
Sanan Optoelectronics	...	...	...
Nationstar	...	...	...
Formosa Epitaxy	...	...	...
Harvateck	...	...	...
Chi Mei Lighting	...	...	...
Bright LED Electronics	...	...	...
Genesis Photonics	...	...	...
Huga Optotech
Edison Opto

source: RIC <Global and China LED Industry Report, 2011-2012>

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