
INDUSTRY OVERVIEW

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SOURCES OF INFORMATION AND RESEARCH METHODOLOGY

We commissioned Frost & Sullivan, an Independent Third Party, to conduct a market analysis and to provide a market research report on China's ITO film industry, the Smart Light-adjusting Products industry and the Smart Light-adjusting Projection System industry. Frost & Sullivan is an independent global consulting firm, which was founded in 1961 in New York and offers industry research and market strategies and provides growth consulting and corporate training. We incurred a total of RMB350,000 in fees and expenses for the preparation of the F&S Report.

Frost & Sullivan has conducted detailed primary research which involved discussing the status of the industry with certain leading industry participants. Frost & Sullivan has also conducted secondary research which involved reviewing company reports, independent research reports and data based on its own research database. Frost & Sullivan has obtained the figures for the estimated total market size from historical data analysis plotted against macroeconomic data as well as considered the above-mentioned industry key drivers.

In compiling the F&S Report, Frost & Sullivan has adopted the following key assumptions:

- the social, economic and political environment of the PRC is likely to remain stable in the forecast period; and
- related industry key drivers are likely to drive the market in the forecast period.

OVERVIEW OF ITO FILM INDUSTRY IN CHINA

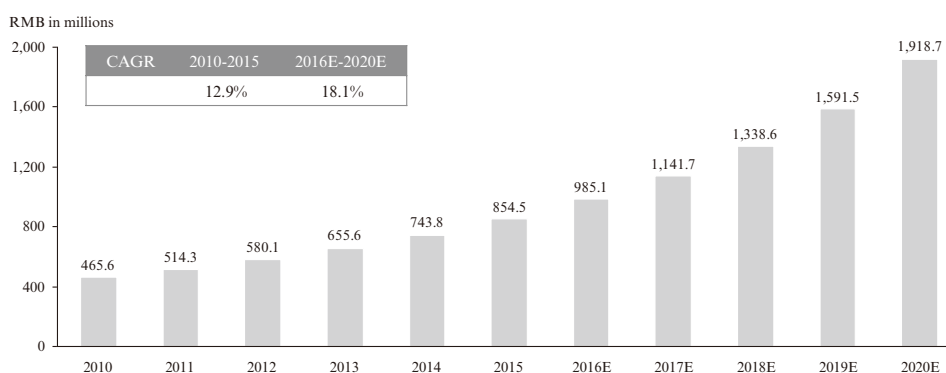
Indium tin oxide (ITO) is a ternary composition of indium, tin and oxygen which is the most widely used transparent conducting oxide because of its electrical conductivity and optical transparency as well as the ease with which it can be deposited as a thin film. ITO film is widely used in modern industry such as electronic displays (such as flat panel displays and touch screens) and is a very important raw material used in the production of Smart Light-adjusting Products (as described below).

INDUSTRY OVERVIEW

The market size of the ITO film industry by revenue reached RMB854.5 million in 2015 and grew at a CAGR of 12.9% from 2010 to 2015, driven by growing domestic demand. Over 70% of sales of ITO film products are made to the electronic displays industry for applications such as LCD screens, plasma display panels, electroluminescent displays and touch panels.

With the gradual rising popularity of Smart Light-adjusting Products which are applied for use in advertisement displays, high-end residential and commercial buildings as well as other fields, it is anticipated that there will be an increase in demand for ITO film. With the development of downstream application segments, it is expected that the market size of the ITO film industry in terms of revenue will reach RMB1,918.7 million in 2020, representing growth at a CAGR of 18.1% over the period from 2016 to 2020.

China ITO Film Market Size by Revenue, 2010-2020E

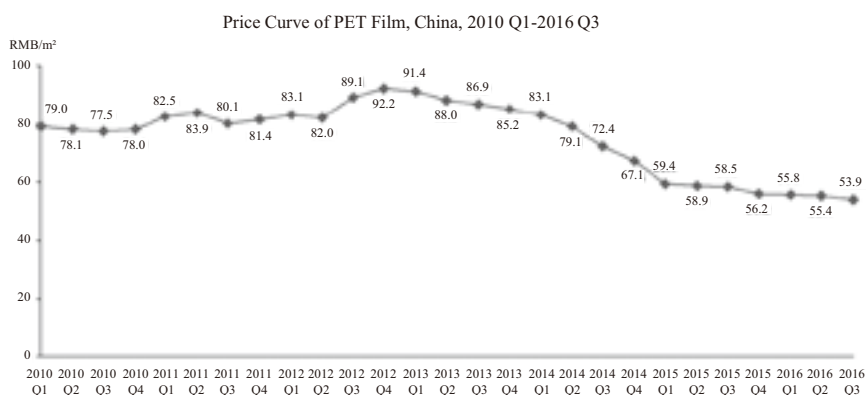


“E” denotes estimated figures

Source: Frost & Sullivan

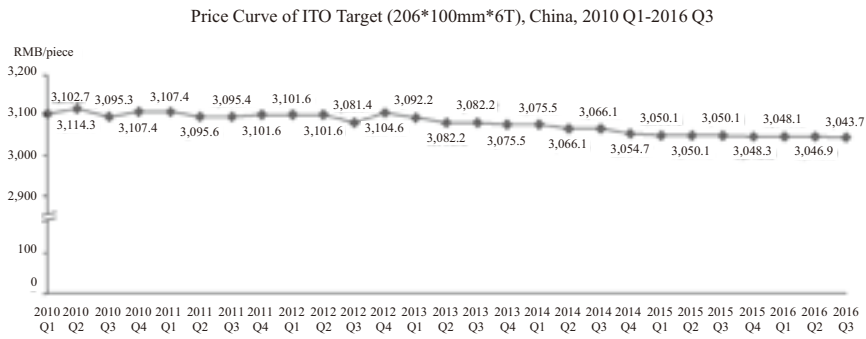
Raw material price analysis for ITO film market

The major raw materials of ITO film are: (i) PET film, which represents 60-70% of the total production cost of ITO film; and (ii) ITO Targets. The following chart illustrates the prices movements of PET film and ITO Targets in the PRC from 2010 to 2016 Q3:



Source: Frost & Sullivan

INDUSTRY OVERVIEW



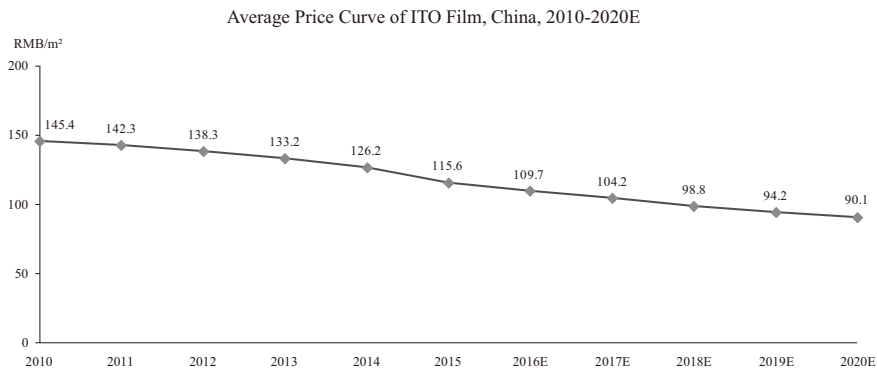
Source: Frost & Sullivan

The price of PET film increased over the period from the first quarter of 2010 to the fourth quarter of 2012 with slight fluctuations due to changes in supply volume, and reached RMB92.2/sq.m. by the end of 2012. However, there is a decreasing trend in pricing since the first quarter of 2013 due to increasing capacity of suppliers for mass production as well as technological advancements which lowered costs. A steady decrease in pricing is expected in the next few years.

The price of ITO target has witnessed slight fluctuations over the period from 2010 to 2016 Q3 but stabilised between RMB3,000 per piece to RMB3,120 per piece. The price of ITO target in the PRC is expected to decrease in the future due to technological advancements as well as reduced reliance on import of indium, being a major raw material of ITO target, as China is the world’s largest indium exporter.

Price analysis of the ITO film market

The average sales price of ITO film decreased from RMB145.4/sq.m. in 2010 to RMB115.6/sq.m. in 2015 due to increasing capacity of suppliers for mass production, technological advancements as well as decreasing price of raw materials. The drop was particularly evident in 2015 due to slowing growth of the smartphone market as well as a downturn in the domestic construction market. With the steadily growing PRC domestic economy and increasing popularity of downstream products however, it is expected that the price of ITO film will decrease at a slower rate in the next few years.



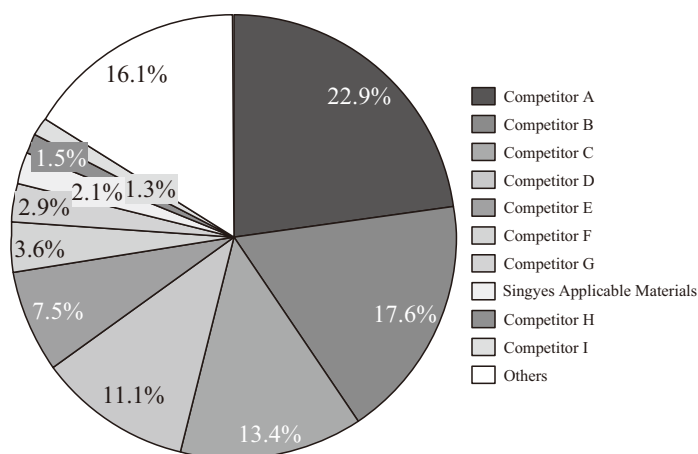
“E” denotes estimated figures

Source: Frost & Sullivan

INDUSTRY OVERVIEW

Competitive landscape

The ITO film market in China is a highly centralised market with top ten producers accounting for 81.5% and 83.9% of the total market share in 2014 and 2015 respectively. Singyes Applicable Materials, our key operating subsidiary was ranked ninth (with market share of 2.4% by revenue) and eighth (with market share of 2.1% by revenue) in 2014 and 2015 respectively. The following chart shows the market position of Singyes Applicable Materials in 2015:



Source: Frost & Sullivan

Future outlook and market trends

It is expected that the ITO film market in the PRC will be affected by the following factors in the near future:

- (i) *increasing downstream applications*: demand for ITO film is expected to increase mainly driven by demand from the touch screen manufacturing industry where sales of smartphones in the PRC grew at a CAGR of 19.5% from 2012 to 2015. Further, due to the rapid economic development and rise in disposal income in the PRC (with nominal GDP per capital expected to grow at CAGR of 6.8% and disposal income per capital expected to grow at CAGR of 8.9% from 2016 to 2020), it is expected that touch screen and other ITO-related downstream products will become more affordable and therefore continue to drive the growth of the ITO market;
- (ii) *innovation and technological advancement*: the quality of ITO film produced by domestic manufacturers is expected to improve as domestic manufacturers have adopted essential technologies (previously a specialisation of foreign manufacturers), for production and are becoming more technologically advanced;
- (iii) *strong policy support*: the development of ITO film market is strongly supported by the PRC government and received special support under the 13th Five-Year Plan;
- (iv) *increasing market consolidation*: the number of producers is expected to decline from now over 350 to less than 50 as leading companies are likely to expand their market share through acquisitions and expansion of product range while smaller companies may find it difficult to compete;

INDUSTRY OVERVIEW

- (v) *vertical integration*: it is expected that ITO film manufacturers will engage in vertical integration of the value chain to cope with increasingly fierce market competition through integration with downstream manufacturers or building sustaining customer relationships with end-customers through downstream manufacturers; and
- (vi) *popularity of ductile ITO film*: there is increasing interest in ductile ITO film to meet technical requirements of bendable display screens in downstream products.

Entry barriers

The following are key barriers to entry to the ITO film market in the PRC:

- (i) *dominance over core production resources*: the dominance of Japanese companies in the supply of high-end raw materials and the difficulty in obtaining manufacturing equipment for the production of ITO film are major entry barriers for entrants lacking initial capital;
- (ii) *technology and expertise*: heavy investments is required in production technology, and research and development to meet the customisation requirements of customers and many highly technical production techniques and patents are monopolised by leading producers in the market; and
- (iii) *downstream customer base*: as downstream customers rely heavily on the quality and stability of ITO film to sustain the quality of their products, they are less likely to switch to another supplier considering the risk that the quality of ITO film may change and new producers may find it difficult to build up customer base.

Threats

The following are key threats to the ITO film market in the PRC:

- (i) *reliance on import of upstream production materials*: the ITO market in the PRC is highly reliant on the import of high-grade ITO targets and PET film from foreign countries which may increase production costs and makes it difficult to guarantee stable supply for mass production; and
- (ii) *threats from alternative new materials*: currently there are companies working to develop alternative solutions to ITO film which are currently at the experimental laboratory stage. The development of alternative materials which could be used as a substitute for ITO film may pose a threat to the industry. Alternatives of ITO film at present include:
 - (a) *fluorine-doped tin oxide (FTO) film*: FTO film is considered to be one of the major potential alternatives to ITO Film and is already widely used for the production of LCD screens, substrate of thin-film solar cells, electrochromic glasses, etc. Although FTO film is approximately 10% cheaper than ITO film in terms of costs, ITO film has better functional properties in terms of electrical conductivity and optical transmittance, which makes it the preferred raw material for performance demanding applications (such as high-end touch panel screens or Smart Light-adjusting Products in high-end buildings).

INDUSTRY OVERVIEW

- (b) *silver nanowires*: silver nanowires is an emerging potential alternative to ITO film although its use and application for touch module production process is still premature. Silver nanowires have high performance in aspects such as light transmittance and ductility and the raw materials for production are relatively pervasive. However, currently its supply in the PRC is dominated by American companies which charges relatively high prices for supply; and
- (c) *graphene*: graphene is another emerging potential alternative to ITO film and has good function properties in terms of light transmittance and resistivity; however, it is still in the experimental stage and further research work is needed to bring the product to mass production.

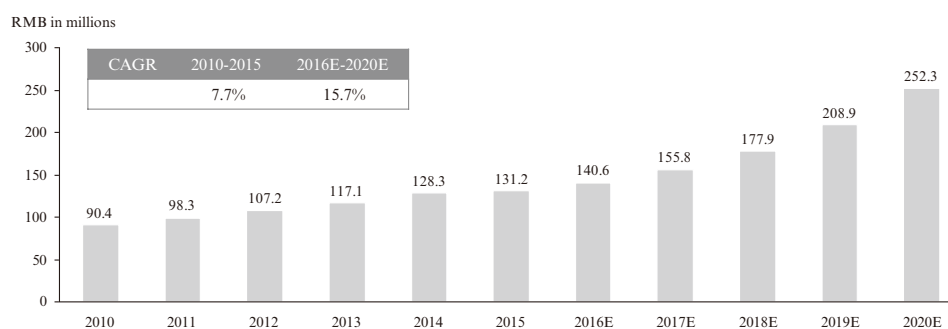
For the time being and in the foreseeable future, ITO film will remain as one of the most practicable high performing transparent conducting film, the production technique of which is relatively mature.

OVERVIEW OF THE SMART LIGHT-ADJUSTING PRODUCTS INDUSTRY IN CHINA

Smart Light-adjusting Products (including Smart Light-adjusting Film and Smart Light-adjusting Glass) make use of the conductive property of the ITO film and switchable liquid crystal under an external electrical field to achieve light control and permeability, allowing it to switch between transparent to opaque states. Given such properties, Smart Light-adjusting Products are applied in various fields such as construction and decoration, automobile and new energy fields.

The market size of the Smart Light-adjusting Products industry by revenue has experienced steady growth over the period from 2010 to 2015 and grew at a CAGR of 7.7% from RMB90.4 million in 2010 to RMB131.2 million in 2015. It is expected that growth in the market will accelerate to a CAGR of 15.7% with market revenues reaching RMB252.3 million in 2020, driven by growing domestic demand due to market trends described in the paragraph “Future outlook and market trends” below.

China Smart Light-adjusting Products Market Size by Revenue, 2010-2020E



“E” denotes estimated figures

Source: Frost & Sullivan

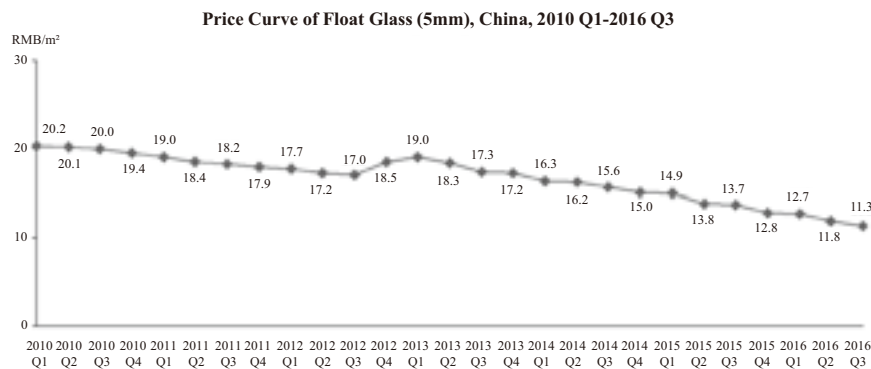
INDUSTRY OVERVIEW

The rapid growth potential for Smart Light-adjusting Products can be justified by three major factors. First, the fast development of high-end commercial buildings towards comfort, energy efficiency and privacy protection, is demanding more high-standard decorations as well as multifunctional office settings to fulfil their needs by replacing traditional curtains and concrete walls with Smart Light-adjusting Products, enhancing their user experience. Second, the concept of “smart home” is getting increasingly popular and this gives rise to smart products with light-adjusting function which can be utilised as blinds for privacy protection in bathrooms, bedrooms and living rooms, or as a switchable projection screen for home cinema. Third, as an integral part of the Smart Light-adjusting Projection Systems, the demand for Smart Light-adjusting Products is also driven by the wider application of Smart Light-adjusting Projection Systems in areas such as outdoor advertising billboards in public transport stations and on commercial buildings, corporate boardrooms, conference facilities, high-end bars, clubs, pubs as well as home theatre set ups etc. Therefore, the fast development of high-end commercial building, the rapidly increasing market size of smart home and the wider application of Smart Light-adjusting Projection System largely facilitate the future growth of Smart Light-adjusting Products.

Currently, public acceptance for Smart Light-adjusting Products is relatively low; however, in specific high-end application sectors such as luxury hotels and boutique office buildings, the products have already been embracing growing adoption by corporate clients. Following a top-down market penetration approach promoted mainly by corporates, the recognition among individual clients will also increase. It is expected to take some time for market cultivation but a promising future growth is predictable. Therefore, with the ever rising market recognition and acceptance underpinned by the adoption of corporate clients as well as the strengthening initiatives in product branding of the smart light-adjusting product suppliers, the market penetration is expected to grow significantly in the coming years.

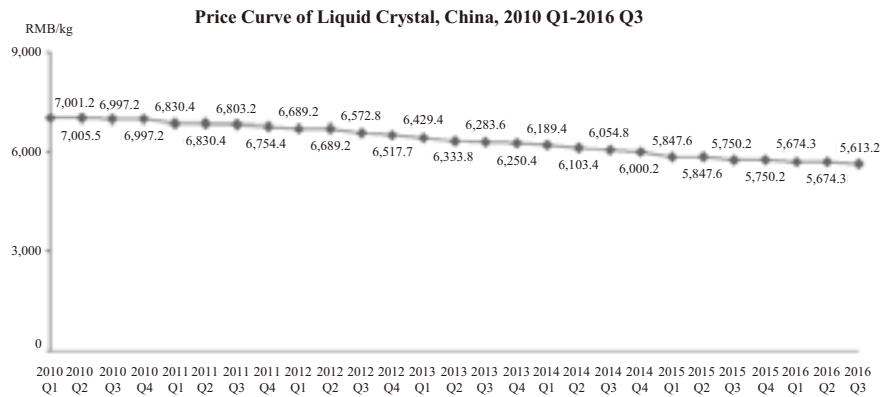
Raw material price analysis for Smart Light-adjusting Products market

Major raw materials for Smart Light-adjusting Products include ITO film, PET film, float glass and liquid crystal. The following chart illustrates the prices movements of float glass and liquid crystal in the PRC from 2010 to 2016 Q3 (the price movements of ITO film and PET film is discussed in the paragraph headed “raw material price analysis for the ITO film market” above):



Source: Frost & Sullivan

INDUSTRY OVERVIEW



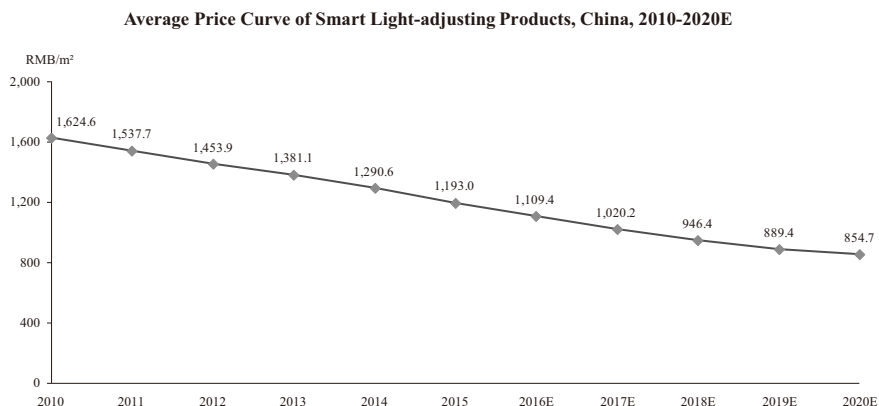
Source: Frost & Sullivan

The price of float glass experienced a slight fluctuation from 2012 to 2014 but has experienced a general downward trend from 2010 to 2016 Q3. It is expected that this downward trend will continue due to the overcapacity within the industry.

Liquid crystal is a key raw material in the manufacturing of PDLC which is an important material used in the manufacturing of Smart Light-adjusting Products. The price of liquid crystal has experienced a steady decline over the past few years as they are being used in an increasing variety of industries, leading to technological advancement and increasing mass production and which has had a downward effect on costs.

Price analysis of the Smart Light-adjusting Products market

The average sales price of Smart Light-adjusting Products decreased from RMB1,624.6/sq.m. in 2010 to RMB1,193.0/sq.m. in 2015 due to technological advancements as well as reduced reliance on the import of raw materials. It is expected that the price will continue to gradually decline over the next few years as Smart Light-adjusting Products are expected to increase in popularity and market penetration.

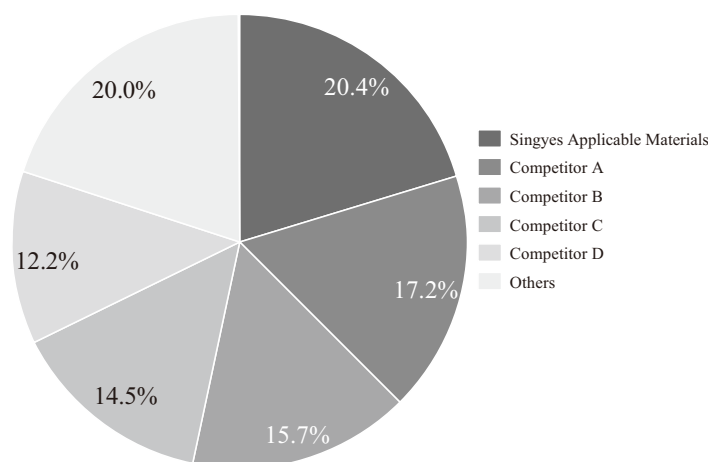


Source: Frost & Sullivan

INDUSTRY OVERVIEW

Competitive landscape

The Smart Light-adjusting Products market in China is a centralised market with top five producers accounting for 82.0% and 80.0% of the total market share in 2014 and 2015 respectively. Singyes Applicable Materials was ranked second (with a market share of 20.1% by revenue) and first (with a market share of 20.4% by revenue) in 2014 and 2015 respectively. The following chart shows the market position of Singyes Applicable Materials in 2015:



Source: Frost & Sullivan

Future outlook and market trends

It is expected that the Smart Light-adjusting Products market in the PRC will be affected by the following factors in the near future:

- (i) *urbanisation and increasing number of high-end commercial buildings*: growth will be driven by ongoing urbanisation and continued investments in real estate development, high-end apartments, commercial buildings and luxury hotels (which experienced rapid growth from 2010 to 2015) as Smart Light-adjusting Products may replace traditional curtains and concrete walls to enhance user experience in terms of comfort, energy efficiency and privacy protection;
- (ii) *rise of “smart home” lifestyle*: there may be demand for Smart Light-adjusting Products (which can allow users to easily control light penetration in the surrounding environment) to facilitate the “smart home” concept for consumers in China in their pursuit of more highly-convenient and interactive living environment as their disposal income increases;
- (iii) *expected wider application*: Smart Light-adjusting Products are generally less expensive, more energy-efficient and eco-friendly, less harmful to human eyes and deliver better visual quality than traditional display screens. It is expected that more advanced products (with more customisation and optimisation features) will appear in the market to suit different customers’ needs. In particular, its use in Smart Light-adjusting Projection System is expected to have potential for outdoor advertising (in billboards in public stations, commercial buildings etc.) especially as projected images can be viewed from both sides; and

INDUSTRY OVERVIEW

- (iv) *steady decline in production costs*: production costs of Smart Light-adjusting Products are expected to fall gradually with acceleration of mass production, vertical integration and a reduction in imports which will lead to a decrease in price of raw materials.

Entry barriers

The following are key barriers to entry to the Smart Light-adjusting Products market in the PRC:

- (i) *capability for mass production and vertical integration*: demand from downstream applications of Smart Light-adjusting Products have driven upstream suppliers to engage in mass production to reduce costs through economies of scale as well as engage in vertical integration through the value chain to control costs; this will create difficulty for small entrants who may not be able to scale up production volume or to compete; and
- (ii) *technology and expertise*: heavy investments is required in acquiring and fine-tuning production facilities as well as optimising PDLC formulas for processing high quality ITO conductive films where some are under patent protection; a highly technical sales team and resources for research and development are also barriers to entry.

Threats

The following are key threats to the Smart Light-adjusting Products market in the PRC:

- (i) *industry disruption by inferior products*: a lack of regulation and standards in the market may lead to fierce price competition among producers of inferior and low-quality products which may result in downward pressure on the sales prices of Smart Light-adjusting Products; and
- (ii) *relatively low public acceptance*: the Smart Light-adjusting Products market in the PRC is a newly emerging market compared with the rest of the world and the application depth and breath as well as the market penetration of Smart Light-adjusting Products remains limited as consumers still perceives relevant products as a luxury rather than a commodity.

Major alternatives of Smart Light-adjusting Products in the PRC include electrochromic smart glass and suspended particle device (SPD) glass. While the cost of producing these products are not significantly different to that of Smart Light-adjusting Products and they all have the ability to control the permeability of light passing through them, the switching rate (between transparent and opaque states) of Smart Light-adjusting Products are much faster than these products and are suitable for high-end application sectors.

OVERVIEW OF THE SMART LIGHT-ADJUSTING PROJECTION SYSTEM MARKET IN CHINA

Smart Light-adjusting Projection System is a set of projection device which combines Smart Light-adjusting Products, a projector and control system as a package, whereby the Smart Light adjusting Products will act as a backdrop for projection from both sides when switched to an opaque state.

INDUSTRY OVERVIEW

Market size of the Smart Light-adjusting Projection System market size by revenue

Smart Light-adjusting Projection System market has been undergoing steady growth over the period from 2010 to 2015 with a CAGR of 37.6%, with total revenues generated of approximately RMB26.6 million in 2015.

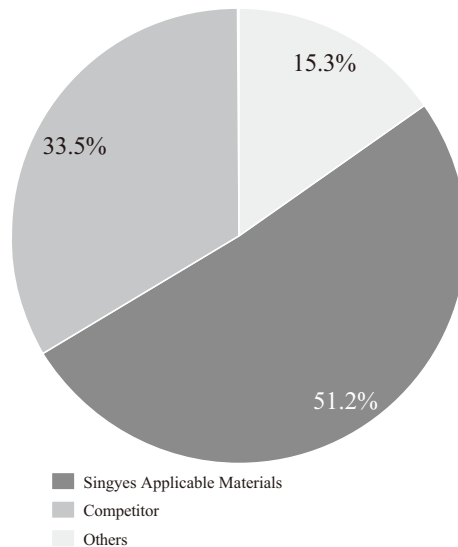
Raw material and price analysis of Smart Light-adjusting Projection System market

A major raw material for Smart Light-adjusting Projection System is the ultra-short throw laser projector, the pricing of which has declined from approximately RMB26,500 per unit from the first quarter of 2010 to approximately RMB20,500 per unit by the end of 2015 primarily because of technological innovation. It is expected that this decline will continue because of the increase in production volume and continued technological progress which is driven by demand in the downstream market such as the market for Smart Light-adjusting Projection System.

Accordingly, there is expected to be corresponding downward pressure on the average sales price of Smart Light-adjusting Projection System, which was sold at average price of RMB69,700 per unit in 2015.

Competitive landscape

The Smart Light-adjusting Projection System market in China is a highly centralised market with top two producers accounting for 84.7% of the total market share in 2015. Singyes Applicable Materials ranked first (with a market share of 51.2% by revenue), as illustrated in the following chart:



Source: Frost & Sullivan

INDUSTRY OVERVIEW

The rapid growth potential for Smart Light-adjusting Projection System is accelerated by three major factors. First, the boom of China's outdoor advertising industry implies a huge potential for Smart Light-adjusting Projection System which is less harmful to eyes and more eco-friendly than traditional display devices (such as LED screens) and presents high-definition visual quality with lower maintenance cost and provides better advertising experience in business scenarios (such as public traffic facilities). Second, the growing income of Chinese households is promoting the pursuit of higher standard in entertainment experience. As switchable smart projection system supports HD projection in frosted (high contrast) or transparent (holographic) modes, it provides customers with a three-dimensional theatre environment at home; hence, better visual experience is presented than traditional screens. Another attractive property of the Smart Light-adjusting Projection System is its lower consumption of power. The system can serve as a window display when the light-adjusting glass is energized (only a weak current will suffice). When the power is cut off, it can be used as a display terminal with marketing purposes. This function gives Smart Light-adjusting Projection Systems the property of energy efficiency compared to traditional LED screens. Thus, a more eco-friendly Smart Light-adjusting Projection Systems will be the option for the market when environmental protection and energy saving is considered. Therefore, booming of the China advertising market, increasing demand for household entertainment experience and energy saving and environmental protection incentives are factors which will largely facilitate the future growth of Smart Light-adjusting Projection System.

Smart Light-adjusting Projection System as a newcomer is still at the beginning for public acceptance; however, the product is believed to have a promising future. With the price of the upstream products gradually falling and the marketing activities by manufacturers expanding, corporate and individual clients in China will come to be more familiar with this new product and find it more affordable eventually. Given the high performance and energy efficient properties of the product, it is estimated that the Acceptance of Smart Light-adjusting Projection System will be accelerated in the coming years especially in the advertising industry.

Future outlook and market trends

It is expected that growth in the Smart Light-adjusting Projection System market will accelerate and that the expected sales amount will increase from RMB26.6 million in 2015 to RMB162.4 million in 2020 (growth at a CAGR of 46.6%), such high prospective growth rate is driven by three major factors:

- (i) *demand from the "out-of-home" advertising industry:* in 2015, 67.8% of Smart Light-adjusting Projection Systems sold in the PRC were used for "out-of-home" advertising purposes. The size of "out-of-home" advertising market by revenue amounted to RMB106.3 billion in 2015, representing high growth at a CAGR of 15.8% over the period from 2010 to 2015. It is expected that the market size by revenue of the segment is expected to further grow (at a CAGR of 12.8% from 2016 to 2020) to RMB 197.8 billion by 2020 as branding, advertising and marketing professionals are continuing to attach more importance to "out-of-home" advertising due to its interactive nature and efficiency in reaching larger audiences. As advised by Frost & Sullivan, such demand from the "out-of-home" advertising industry will likely drive the growth in demand for Smart Light-adjusting Projection Systems as:

INDUSTRY OVERVIEW

- (a) Smart Light-adjusting Projection Systems are perceived to be a less expensive, more energy-efficient and eco-friendly alternative to traditional displays (such as LED and LCD screens);
- (b) Smart Light-adjusting Projection System is currently still an emerging product with a comparatively small market size (generating revenues of approximately RMB26.6 million only in 2015), representing approximately 0.03% of the overall PRC “out-of-home” advertising market by revenue only; while it may take some time for Smart Light-adjusting Project Systems to become more prevalently used (and/or replace the use of traditional displays) in the “out-of-home” advertising market in the PRC, it is believed that given its perceived benefits over traditional displays, it has significant market potential to grow in the next few years and beyond; and
- (c) attributed to marketing efforts from leading Smart Light-adjusting Product suppliers such as our Group, customers in the PRC “out-of-home” advertising industry are becoming more aware of the benefits of using Smart Light-adjusting Projection Systems compared to traditional displays.

Given that the market for Smart Light-adjusting Projection System is still an emerging market (compared to the relatively mature “out-of-home” advertising market) and its application to the “out-of-home” advertising context is still a relatively new concept, it is expected that growth in the market will be significantly driven and propelled by increased applications in the “out-of-home” scenarios (including public transport products and commercial buildings) due its perceived benefits over traditional displays and increased public awareness due to marketing efforts. It is expected that Smart Light-adjusting Project Systems will attribute to approximately 0.08% of the overall PRC “out-of-home” advertising market by revenue, up from approximately 0.03% in 2015 (i.e. it is expected that the market share of Smart Light-adjusting Project Systems in the growing PRC “out-of-home” advertising market will be more than doubled over the period from 2015 to 2020);

- (ii) *evolving demand for household entertainment*: in recent years, growing disposable income in China has driven more consumers in China to opt for a higher living standard and this has resulted in higher demand for more luxurious lifestyles with more leisure time. Such social development in the PRC is expected to stimulate the demand and development of Smart-Light Projection Systems (which are capable of providing users in China given its ability to offer users with an enhanced entertainment and visual experience, compared to traditional displays);
- (iii) *strong policy support*: energy conservation and environmental protection were some of the key initiatives under the 13th Five Year Plan of the PRC government for 2016-2020 mainly due to environmental concerns over pollution arising from power generation. As such, the PRC government is offering financial incentives to manufacturers such as that of our Group given that its products, including the Smart Light-adjusting Projection Systems, are considered to be more energy efficient than traditional displays and LED screens. Such energy-saving property of Smart Light-adjusting Projection Systems is expected to be a continuing force to support the demand of the product..

INDUSTRY OVERVIEW

It is expected that Smart Light-adjusting Projection Systems will be used in many public transport products and commercial buildings for advertisement purposes due to its effectiveness in drawing public attention and its ability to improve visual experience of the audience. It is also less costly to produce, more energy-efficient and more eco-friendly than traditional display screens.

Entry barriers and threats

The Smart Light-adjusting Projection System market is a set of integrated technologies requiring market producers to utilise cutting-edge expertise, engage in extensive research and development and employ high-performing professionals. The ability to vertically integrate for cost control purpose and establishment of long-term relationships with customers are also key barriers to entry.

The major threats to the Smart Light-adjusting Projection System market include (i) relatively low public acceptance at present (as with Smart Light-adjusting Products); and (ii) price pressure from upstream raw materials (including ITO film which are dominated by foreign suppliers).

MARKET OUTLOOK FOR THE GROUP'S MAJOR EXPORT MARKETS

According to Frost & Sullivan, the global Smart Light-adjusting Products market has witnessed continuous growth in recent years, with turnover reaching USD674.2 million in 2015 (up from USD510.3 million in 2010, representing growth at a CAGR of 5.7%). In the future, the global market is expected to amount to USD914.5 million in 2020, representing growth at a CAGR of 7.8% from 2016 to 2020.

Particularly, turnover in the Smart Light-adjusting Products markets in North America and Europe reached USD186.3 million and USD174.5 million respectively in 2015, up from USD145.0 million and USD139.4 million respectively in 2011 (representing growth at a CAGR of 5.1% and 4.6% respectively over the period from 2011 to 2015), and the amount is expected to increase to USD244.1 million and USD223.7 million respectively in 2020 (representing growth at a CAGR of 6.9% and 6.3% respectively over the period from 2016 to 2020). In major Western developed countries, such as the United States, the United Kingdom, Germany and France, Smart Light-adjusting Products have been adopted at an early time and are widely used and demanded for use in high-end commercial buildings and high-end hotels and for certain specific purposes (such as for privacy in banks). The highly developed out-of-home advertising markets in these countries also generate great demand for related Smart Light-adjusting Products for occasions such as window advertising in the retail industry.

Turnover of Smart Light-adjusting Products in the Asia Pacific markets has been growing at a relatively fast pace compared to other regions in the world. In 2015, turnover in the the Smart Light-adjusting Products market in Asia Pacific markets reached USD105.2 million (up from USD74.1 million in 2010, representing growth at a CAGR of 7.3% from 2010 to 2015), and this figure is expected to amount to USD155.0 million in 2020 (representing growth at a CAGR of 10.1% over the period from 2016 to 2020). In particular, major Asia Pacific markets such as Japan have a large demand for Smart Light-adjusting Products for the purpose of serving of high-end commercial buildings, hotels and retail advertising. With economic development, demand for Smart Light-adjusting Products in member countries of the Association of Southeast Asian Nations (ASEAN) has witnessed a rapid growth in turnover from USD23.7 million in 2010 to USD36.8 million in 2015 (representing growth at a CAGR of 9.2%), driven mainly by increasing demand for use in retail advertising and hotels. With the continuous development of the tourism industry in ASEAN countries, demand for Smart Light-adjusting Products is expected to experience further growth and turnover is expected to amount to USD60.5 million in 2020 (representing a CAGR of 13.2% over the period from 2016 to 2020).

INDUSTRY OVERVIEW

Turnover in Smart Light-adjusting Products market in Middle East and Africa reached USD133.7 million in 2015, up from USD101.0 million in 2010 (representing growth at a CAGR of 5.8% over the period from 2010 to 2015), and this figure is expected to amount to USD177.0 million in 2020 (representing growth at a CAGR of 7.2% over the period from 2016 to 2020). In major markets such as Dubai, the development of tourism industry and business has facilitated the growth of luxury hotels and high-end commercial office buildings, which further stimulates the demand for related Smart Light-adjusting Products.

Turnover in the Smart Light-adjusting Products market in South America grew steadily from USD50.8 million in 2010 to USD74.5 million in 2015 (representing growth at a CAGR of 8.0% over the period from 2010 to 2015), mainly due to increased demand from major markets such as Brazil, the host country of the 2016 Olympic Games, where demand for Smart Light-adjusting Products grew remarkably for use in high-end hotels and retail advertising. In the future, it is expected that there will be rapid growth in the number of high-end commercial buildings and hotels in South America alongside continued economic and industrial development, which will in turn stimulate demand for Smart Light-adjusting Products. Hence, turnover in the Smart Light-adjusting Products market in South America is projected to amount to USD114.7 million in 2020 (representing growth at a CAGR of 11.2% over the period from 2016 to 2020).