



**Global and China ITO Targets Industry
Report, 2017-2021**

August 2017

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 Company Reports, and National Bureau of Statistics of China etc.

Abstract

ITO (indium tin oxide) targets are one of the key materials in the field of electronic information. At present, global markets are concentrated in Japan, South Korea, Mainland China and Taiwan, but only a few companies such as JX Nippon Mining & Metals, Mitsui Mining & Smelting, Tosoh, Samsung and Heraeus, can provide ITO targets due to technical barriers, of which the first three (JX Nippon Mining & Metals, Mitsui Mining & Smelting, Tosoh) grab an around 65% share in global market.

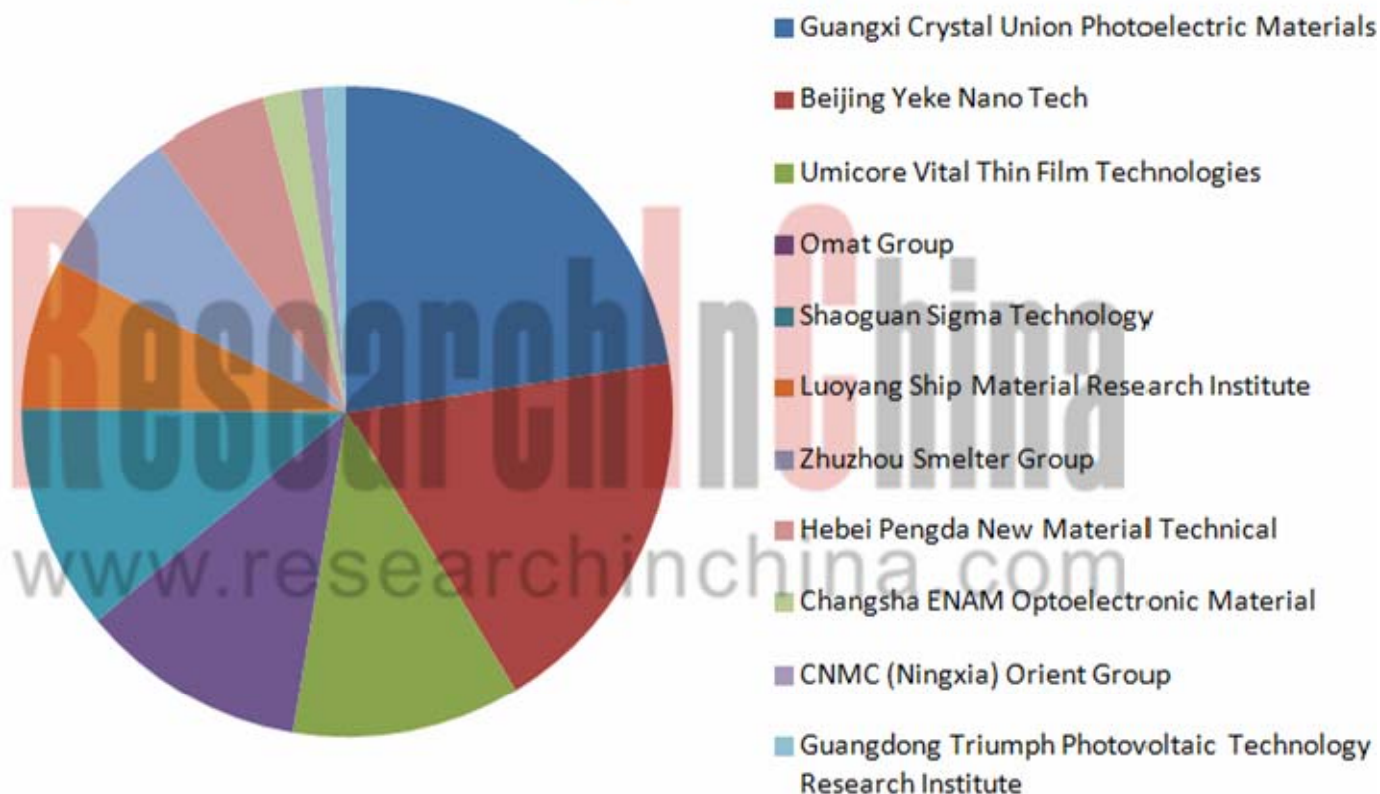
China's ITO targets industry features late start, small production scale and low- and medium-end products, and high-end ITO targets for TFT-LCD and touch panel still rely on imports. China's demand for ITO targets nevertheless keeps rising, with a CAGR of 10.9% during 2011-2016, as downstream markets like LCD, touch panel and OLED expand rapidly. The figure is expected to remain at above 7.0% during 2017-2021.

To meet the growing market demand, Chinese ITO targets enterprises have striven to advance construction of localization projects over the recent years, and some of them have already brought their targets projects into production and launched products. Wherein, Guangxi Crystal Union Photoelectric Materials has raised its ITO targets capacity to 60t/a by dint of the capital of Luoyang Longhua Heat Transfer & Energy Conservation which acquired the former in August 2016. Moreover, the 200t/a ITO targets project of Umicore Vital Thin Film Technologies was partially put into production in 2016.

Additionally, Luoyang Longhua Heat Transfer & Energy Conservation also plans an increase in ITO targets capacity to 260t/a in the coming three years; Vital Materials plans to construct LCD panel used ITO targets production project (800t/a ITO targets, 100t/a solar targets and 100t/a other targets) in Xinzhan District, Hefei city, Anhui province in 2017, and to complete it in late 2018.

The rare metal indium is the main raw material of ITO targets. China is the world's largest indium producer with the richest indium resources, occupying 80% of global total. China's output of refined indium began to drop in 2015 due to weaker indium investment demand, low price and stricter environmental requirement, and fell by 2.9% in 2016 versus 2015, expectedly down 5.9% year on year in 2017.

Market Share of Main ITO Targets Enterprises in China, H1 2017



Note: the statistics are based on capacity of these enterprises (over 3t/a)

Source: ResearchInChina

Meanwhile, for indium has demerits of high resistance, fragility, high costs and difficult waste recycling, silver nanowire, metal mesh, carbon nanotube and graphene are the substitutes for ITO, but only silver nanowire and metal mesh technologies are now capable of industrial application, of which the former has matured.

Global and China ITO Targets Industry Report, 2017-2021 highlights the following:

- ◆ Global ITO targets market (supply and demand, and competition);
- ◆ China's ITO targets market (technology status, supply and demand, competition pattern, key projects, substitute products and development trend);
- ◆ Global and Chinese indium market (supply and demand, import and export, and price);
- ◆ Global and Chinese tin market (supply and demand, import and export, and price);
- ◆ Situation and demand of ITO targets downstream industries (LCD, touch panel, solar cell and LED/OLED);
- ◆ 8 global and 13 Chinese ITO targets enterprises (operation, ITO targets business and development strategy).

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