



Global and China Automated Optical Inspection(AOI) Industry Report, 2014-2018

Dec. 2014

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

Optical inspection is a method of inspection on defects in targets under test by comparing images of targets under test obtained through optical imaging (after processed and analyzed with specific processing algorithm) with images of standard templates. Broadly speaking, automated optical inspection (AOI), automated X-ray inspection (AXI) and automated visual inspection (AVI) all fall into the category of AOI. The main optical inspection products available in the market now are AOI ones, and few are AXI ones. Fewer companies engage in the manufacturing of AVI products.

Currently, AOI is chiefly applied to PCB and TFT-LCD industries. However, for China, the penetration of AOI in the two industries is still rather low, with only 20%-30% of production lines in PCB industry equipped with AOI. Some companies have developed AOI products applied to semiconductor, touch panel, LED and solar cell industries. Market demands for AOI in the future will come mainly from the following three aspects: new projects in PCB and TFL-LCD industries; production lines that have not been equipped with AOI in PCB ad TFT-LCD industries, and other industries.

Globally, AOI companies with higher market share converge in Israel, Japan and South Korea, all of which have China as their key foreign market. The world's top 5 companies by AOI revenue in 2013 were Orbotech (Israel), Omron (Japan), KohYoung Technology (South Korea), Camtek (Israel) and Screen (Japan).

In the Chinese AOI market, no company in China could manufacture AOI equipment before the year 2004, and the equipment was imported mainly from Israel, Japan, South Korea and Taiwan. From May, 2004 when the predecessor AOI R&D team of ALeader developed China's first set of AOI, more and more AOI companies have been established to engage in the R&D, production and sales of AOI equipment. Hence, the Chinese AOI equipment manufacturers were set up after the year 2005 and distributed mainly in regions that have advanced electronic information industry, like Pearl River Delta led by Shenzhen, Yangtze River Delta led by Shanghai, and Bohai Bay Rim led by Beijing. For now, the Chinese AOI manufacturers produce mainly AOI equipment for PCB. In industries other than PCB, like TFT-LCD, IC, LED, solar cell, localization rate of AOI equipment is extremely low, almost totally dependent on import.

At present, foreign brands occupy more than 60% of the Chinese AOI market. These companies have powerful strength in technology R&D and their products feature high stability, reliability and fast speed. Accordingly, the unit prices are generally several time to ten times of that of China-made products. In 2013, foreign companies holding fairly high share in the Chinese AOI market were Orbotech, TRI, Omron and Camtek. Among local Chinese companies, Aleader (formally set up in Aug. 2005), Jutze Intelligence (established in Nov. 2007), Ekt-Tech (founded in May 2006), Zhenhua Xing Technology (set up in Feb. 2007), Zhejiang Ovi Technology (founded in Nov. 2008) and Shenzhen JT Automation Equipment (entered AOI market by acquiring Shenzhen Winning Software in Aug. 2009) are the Chinese companies with higher market share and strong R&D strength.

Global and China Automated Optical Inspection (AOI) Industry Report, 2014-2018 focuses on the following:

- ⇒ Overview of AOI industry (covering definition, classification, composition, advantages, relevant industries, industry chain, market features and business models);
- ⇒ Global AOI market (including market status quo, market size, competitive landscape and development trend);
- ⇒ Chinese AOI market (embracing industrial policies, market status quo, market size, demand, competitive landscape and development prospect);
- ⇒ Downstream industries of AOI (containing market size and demand of PCB, LCD and IC);
- ⇒ 10 major global AOI companies (including profile, performance, revenue structure, R&D costs, AOI business, development strategy, business in China);
- ⇒ 14 major Chinese AOI companies (covering profile and AOI business).

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1.1.1 Definition

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