Yano Research Institute

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RESEARCH SUMMARY

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Global Market of Transparent Conductive Films for Touch-Screen Sensors: Key Research Findings 2014

◆ Research Outline

Yano Research Institute has conducted a study on the global market of transparent conductive films for touch-screen sensors with the following conditions:

1. Research period: From January to March, 2014
2. Research target: Manufacturers of touch screens, transparent conductive films, and other materials (OCA, hard-coat films, leader-line materials)
3. Research methodologies: Face-to-face research by the expert researchers, survey via telephone/email, and literature research

What are transparent conductive films for touch-screen sensors?
The transparent conductive films for touch-screen sensors in this research indicate those transparent conductive films used for capacitive touch sensors. There are ITO (indium tin oxide) films and non-ITO films: The latter are made of silver nanowire, copper mesh, silver mesh, and others.

◆ Key Findings

■ Global Market of ITO Transparent Conductive Films is Anticipated to Achieve Double-Digit Growth

During the years of 2011 and 2012, the global market of ITO transparent conductive films (hereafter ITO films) for touch screen sensors had increased twice as large as the size in the previous years, in conjunction with increasing demands for capacitive touch sensors. In 2013, however, growth of the ITO films declined, because of the slower increase in the market of smart phones and tablet terminals. Also, the film sensors now use single-sheet ITO films instead of double sheets like they used to. Nevertheless, with expectation of growth of the film sensor market itself, the global ITO films market in 2014 is likely to be 125.2% of the size of the previous year to attain 29,680,000 m^2 based on the shipment volume of the manufacturers. The market is estimated to continue its double-digit growth in 2014 and beyond.

■ Non-ITO Transparent Conductive Films Expanded for Low-Resistant Requirement

ITO films which used to be a material of film sensors is now regarded that their limit in surface electrical resistance value to be up to 100 ohms per square at most, because of sensor-pattern visibility problem. Therefore, they have widely been replaced with new films made of silver nanowire, copper mesh, silver mesh, and others, which are called non-ITO films. The non-ITO transparent conductive films manufacturers, respectively, are trying to attract customers by their value added products that supplement the challenges of ITO films by making them available for low-resistance and flexibility, and by simplifying the production processes at user companies by using integral molding of leader-lines and

sensors.

■ **Non-ITO Films Projected to Account for 5.7% of Global Market of Transparent Conductive Films for Touch Screen Sensors**

Non-ITO films have come to be used recently in the note PCs, all-in-one PCS and other large products as low-resistant transparent conductive films to replace ITO films. In 2013, when non-ITO transparent conductive films have fully mass-produced for the first time, the global market size remained to be 800,000 m^2 in shipment volume of manufacturers. However, it is projected to attain 1,800,000 m^2 in 2014. This volume accounts for 5.7% of the entire global market of transparent conductive films for film sensor, in 2014, which include ITO films.

◆ Report format:

Published report: "Capacitive Touch Panels and Components Market 2014"
Issued on: March 31, 2014
Language: Japanese
Format: 298 pages in A4 format
Price: 150,000yen (The consumption tax shall be charged additionally for the sales in Japan.)

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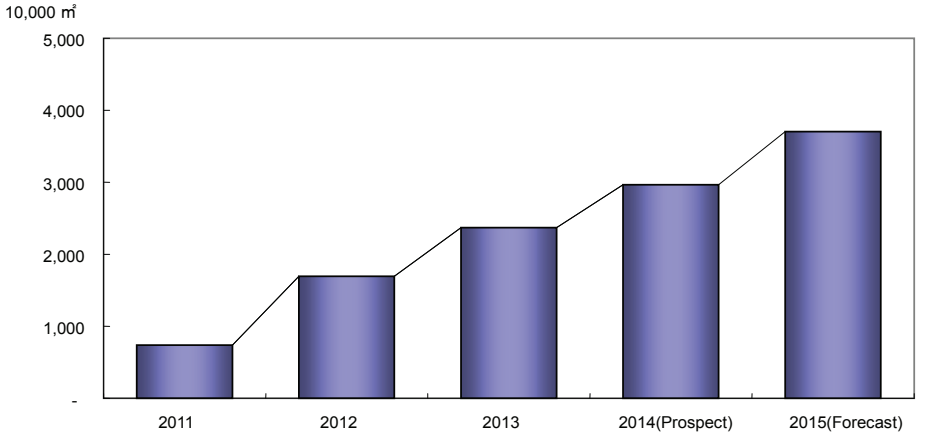
■ **Table & Figure 1. Transition and Forecast of Global Market of ITO Transparent Conductive Films for Touch-Screen Sensors**

（10,000 ㎡）

	2011	Y-o-Y	2012	Y-o-Y	2013	Y-o-Y	2014(Prospect)	Y-o-Y	2015(Forecast)	Y-o-Y
Market Size	739	273.7%	1,693	229.1%	2,371	140.0%	2,968	125.2%	3,703	124.8%



（Estimation by Yano）

Notes
1. The figures are based on shipment volume of the manufacturers.

■ **Table 1. Global Market of Transparent Conductive Films for Touch-Screen Sensors**
Comparison between ITO Films and Non-ITO Films

10,000 ㎡)

		2013	2014(Prospect)	Y-o-Y
AgNW films		40	80	200.0%
（Composition ratio）		(50.0%)	(44.4%)	
Mesh Films	Silver mesh	40	70	175.0%
	（Comp. ratio）	(50.0%)	(38.9%)	
	Copper mesh	partly	30	-
	（Comp. ratio）	-	(16.7%)	
Total		80	180	225.0%
（Composition ratio）		(100.0%)	(100.0%)	

ITO Films	2,371	2,968	125.2%

（Estimation by Yano）

Notes
2. The figures are based on shipment volume of the manufacturers.