

Global TFT-LCD Equipment Industry Report, 2009



During 2009Q1 to 2011Q4, several TFT-LCD production lines will be put into operation in the world including the second 8G production line of Samsung, LG 8G production line, AUO 7.5G and 8.5G line, Chi Mei 8G line, UniVenture 6G line, Sharp 10G line, BOE 6G line in Hefei and IPS ALPHA 8G line. At the end of Aug 2009, BOE declared to invest RMB28 billion to establish 8G line; Kunshan Longfei Optical Electronics will invest RMB3.3 billion to establish 8.5G line; InfoVision Optoelectronics will invest RMB3.2 billion to set up 8G line; and Sharp will establish 8G line in Nanjing. Meanwhile, there are a number of uncertain 8G line projects in Suzhou and Guangzhou. In China, almost RMB100 billion will be injected into TFT-LCD production lines.

Of investments in TFT-LCD production lines, 55% will go to equipments; 20% to civil engineering; and 10% to land expropriation. Japan is a place where has the most TFT-LCD equipment manufacturers and the world's giants in this field cluster. Japanese companies have absolute competitive edge, with their market share always above 40% and even 70% in the core realm. Among TFT-LCD equipments, exposure machine is most expensive followed by CVD and PVD. Just Canon and Nikon can produce array-segment exposure machine; sales price of one array-segment exposure machine will be as high as several-hundred-million US dollars.

70% of global TFT-LCD equipments production value comes from Japanese companies. In contrast, Chinese enterprises have little investment in core technology, without any production value of TFT-LCD equipment. Since the large size of TFT-LCD equipment particularly in 8G line, transport cost is exceedingly high.

In South Korea and Taiwan, there are some non-core-area TFT-LCD equipments producers.

Top 3 TFT-LCD Equipment Manufacturers

Name of Equipment	NO.1	NO.2	NO.3
Glass substrate polish	SpeedFam	JOYO Engineering	Evatech
Cleaning	Shibaura	Hitachi Hi-Tech	DMS
Direct projection exposure	Canon	Nikon	
Proximity exposure	Hitachi Hi-Tech	NSK	ORC
Developing	DNS	TEL	Hitachi Hi-Tech
Wet etching	DNS	SEMES	Micro Giken
Dry etching	TEL	YAC	ADP
PVD	ULVAC	AKT	CANON-ANELVA
CVD	AKT	ULVAC	
Photo-resist stripping	TEL	DNS	SEMES
Anodizing	RKC Instrument	Toyo Denki	
Ion doping	Harima Heavy Industries	Sumitomo Eaton Nova	Mitsui Shipbuilding
Laser tempering	Japan Steel Works	Sumitomo	SOPRA/iCute
Alignment coating	NAKAN	NIESHA	EVATECH
Sintering furnace	NAKAN	ESPEC	DENKO
Alignment	JOYO Engineering	ING	EYE
Screen printing	Hitachi Hi-Tech	Shibaura	New Long
Spacer spraying	Nisshin Engineering	SE	EVATECH
Assembling	JOYO Engineering	ShinEtsu Engineering	Hitachi Hi-Tech
LCD injection	Anelva	Engineering KAIJO	Shimadzu
LCD drop filling	ShinEtsu Engineering	Hitachi Hi-Tech	
Cutting	Mitsubishi Diamond	NAKAMURA-TOME Precision	JOYO Engineering
Polarizer alignment	Hu-Tech Me dec	Takatoni	JOYO Engineering
TAB	Shibaura	Hitachi Hi-Tech	Takatoni
COG	KME	TORAY	Hitachi Hi-Tech
Substrate inspection equipment	Sokkia Fine Systems	TOHO	Technology Nanometrics
Array inspection	IHI/Photon	Orbotech	Micronics Japan
Color filter inspection	Takano	Kubotek	V Technology
Lighting inspection/probes	Micronics Japan	Tokyo Cathode	Toray Engineering
Environmental test equipment	Yomato	Scientific	SATO VAC INC

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