

Market Forecast Report
Semiconductor and FPD Manufacturing Equipment

[2016-2018 fiscal year]

July 7, 2016

SEAJ

Semiconductor Equipment Association of Japan

[Overview]

This report provides a forecast trend for Semiconductor and FPD manufacturing equipment. The fully-considered results made in this forecast report are by the Semiconductor Research and Statistics sub-committee and the FPD Research and Statistics sub-committee of the Semiconductor Equipment Association of Japan (hereinafter called SEAJ, Chairman Mr. Kazuo Ushida), and as the result of market trend research from both the Board of Directors and auditors (total 19 companies) by SEAJ consensus.

Due to growth in the semiconductor manufacturing equipment market, in addition to high growth in the FPD manufacturing equipment market thought to have carried over from fiscal year 2015, we predict that overall sales of 1.7662 trillion yen for fiscal year 2016, an increase of 9.8%. Assuming there will be a slight increase in the semiconductor manufacturing equipment market and consolidation of the FPD manufacturing equipment market, we have predicted that sales in fiscal year 2017 will decrease 2.2% to 1.7273 trillion yen. As for fiscal year 2018, we anticipate the semiconductor manufacturing equipment market will grow and the FPD manufacturing equipment market will further decline, so we have predicted that overall sales will increase 1.2% to 1.7474 trillion yen.

- (1) **Forecast period** The fiscal year of 2016 to 2018 for three years
- (2) **Forecast items** Japanese Equipment and Japanese Market for Semiconductor and
 Japanese Equipment for FPD manufacturing equipment
- (3) **Forecast results**

[Forecast of Japanese Equipment Billings for Semiconductor Manufacturing Equipment]

We predicted sales of 1.3439 trillion yen, a 2.7% increase, for fiscal year 2016 anticipating investment recovery by logic manufacturers and foundries in addition to investment in 3D-NAND. Assuming demand for equipment will recover due to a return to mild growth for electronic devices and semiconductors and in the macro economy from fiscal year 2017, we have predicted that sales will slightly increase 0.2% to 1.3468 trillion yen for fiscal year 2017 and increase 7.1% to 1.4424 trillion yen for fiscal year 2018.

[Forecast of Japanese Market Billings for Semiconductor Manufacturing Equipment]

Since DRAM and image sensor manufacturers are expected to decrease investment, we predicted sales for fiscal year 2016 will decrease 11.5% to 580.9 billion yen. We anticipate that investment in image sensors will resume in fiscal year 2017, but have predicted overall sales for fiscal year 2017 will increase 0.2%, the same as the previous fiscal year, to 582.1 billion yen. As for fiscal year 2018, we anticipate a mild recovery in equipment demand, so we have predicted that sales will increase 4.1% to 606 billion yen.

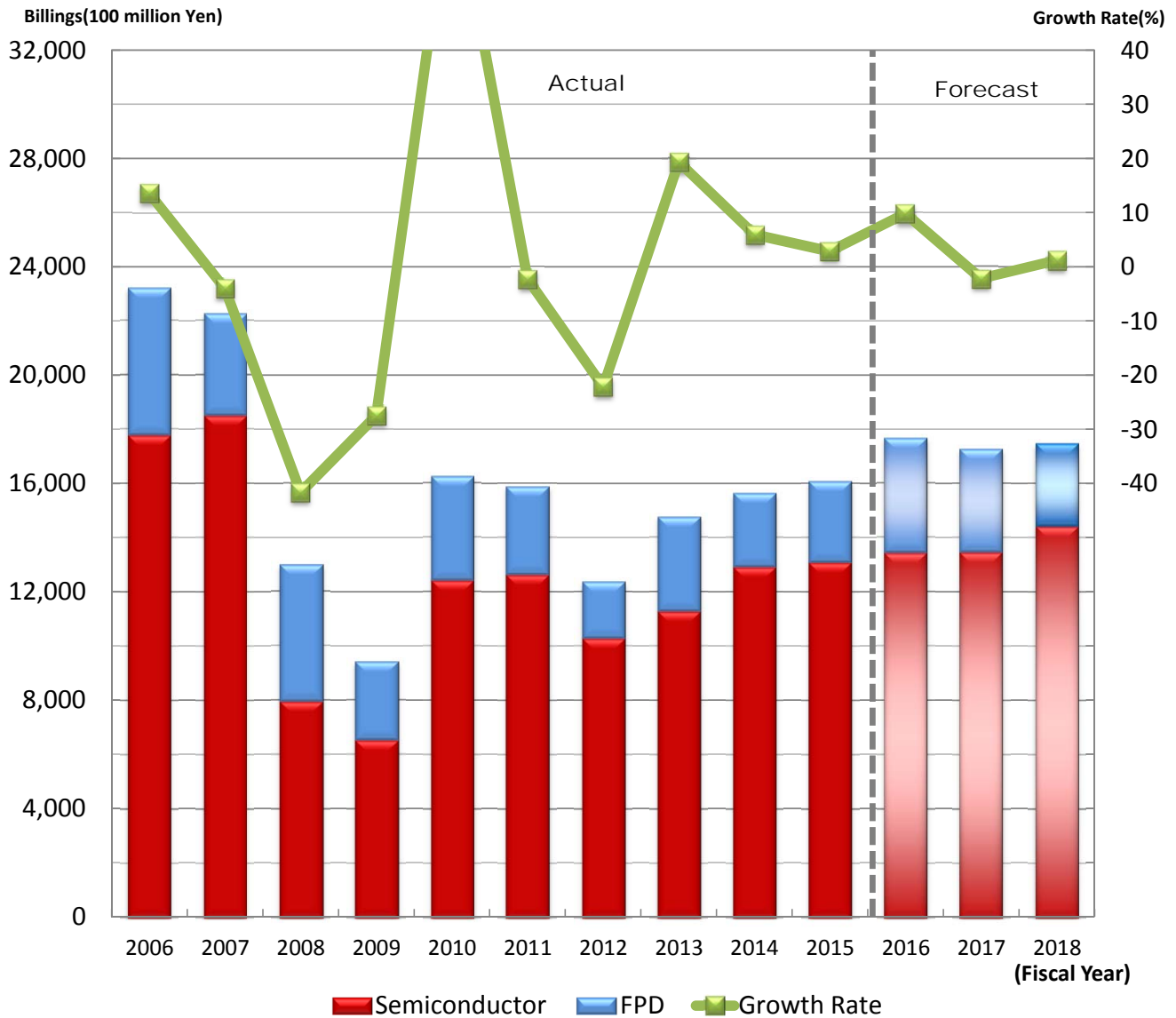
[Forecast of Japanese Equipment billings for FPD Manufacturing Equipment]

As for fiscal year 2016, Japanese and Taiwanese investments were added to investments that have traditionally focused on the Chinese and Korean markets, so we predicted sales will increase 41.4%, which has been adjusted upward from the previous prediction, to 422.3 billion yen. Although investment in equipment for small to midsize OLED panels will increase, we have predicted that sales for fiscal year 2017 will decrease 9.9% to 380.5 billion yen due to the impact of decreased investment in large panels. As for fiscal year 2018, although we expect investment in G10.5 for large panels, we assume the market will consolidate and have predicted sales will decrease 19.8% to 305 billion yen.

July 2016 Forecast for Semiconductor and FPD Manufacturing Equipment

1. Semiconductor and FPD Manufacturing Equipment 【Forecast for Japanese Equipment Billing】

* "Japanese Equipment Billing " = Japanese manufacturers Domestic and Oversea Billing.



(CAGR : 2015-2018)

Fiscal Year	Actual										Forecast			CAGR
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Semiconductor	17,778	18,510	7,954	6,528	12,415	12,637	10,284	11,278	12,921	13,089	13,439	13,468	14,424	2.8%
FPD	5,429	3,761	5,031	2,887	3,840	3,250	2,089	3,485	2,717	2,993	4,223	3,805	3,050	
Total (100 million yen)	23,206	22,271	12,985	9,415	16,255	15,887	12,373	14,763	15,638	16,082	17,662	17,273	17,474	
Growth Rate (%)	13.5	-4.0	-41.7	-27.5	72.7	-2.3	-22.1	19.3	5.9	2.8	9.8	-2.2	1.2	

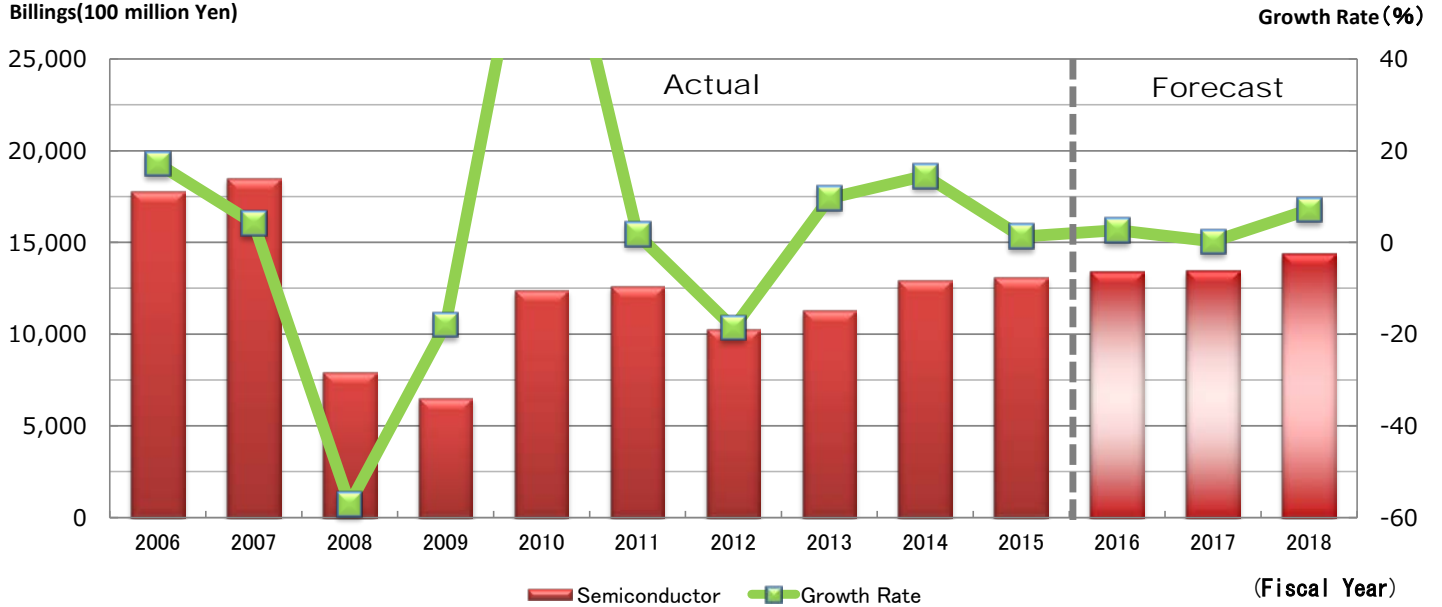
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July 2016 Forecast for Semiconductor Manufacturing Equipment

■ 2. Semiconductor Manufacturing Equipment 【Forecast for Japanese Equipment Billing】

* "Japanese Equipment Billing" = Japanese manufacturers Domestic and Oversea Billing.

Billings(100 million Yen)



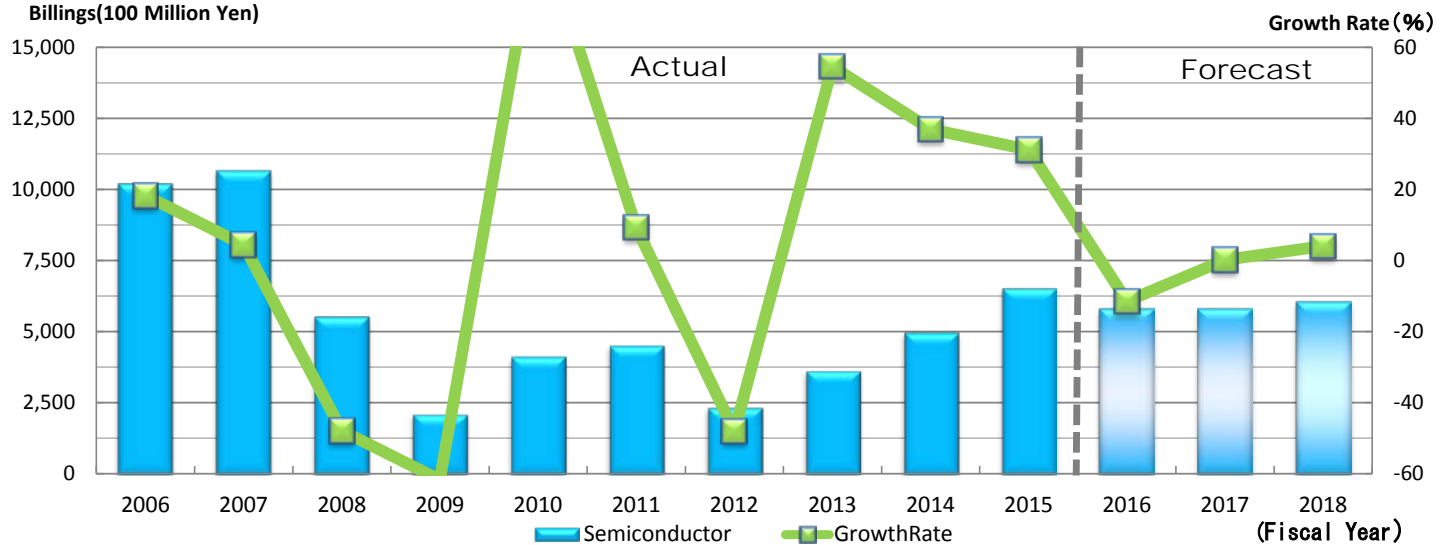
(CAGR : 2013-2016)

Fiscal Year	Actual										Forecast			CAGR
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Total (100 million yen)	17,778	18,510	7,954	6,528	12,415	12,637	10,284	11,278	12,921	13,089	13,439	13,468	14,424	3.3%
Growth Rate (%)	17.2	4.1	-57.0	-17.9	90.2	1.8	-18.6	9.7	14.6	1.3	2.7	0.2	7.1	

【Forecast for Japanese Market Billing】

* "Japanese Market Billing" = Domestic Billing of Japanese and Foreign manufacturers.

Billings(100 Million Yen)



(CAGR : 2015-2018)

Fiscal Year	Actual										Forecast			CAGR
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Total (100 million yen)	10,241	10,694	5,567	2,130	4,162	4,552	2,363	3,653	5,003	6,562	5,809	5,821	6,060	-2.6%
Growth Rate (%)	18.3	4.4	-47.9	-61.7	95.4	9.4	-48.1	54.6	36.9	31.2	-11.5	0.2	4.1	

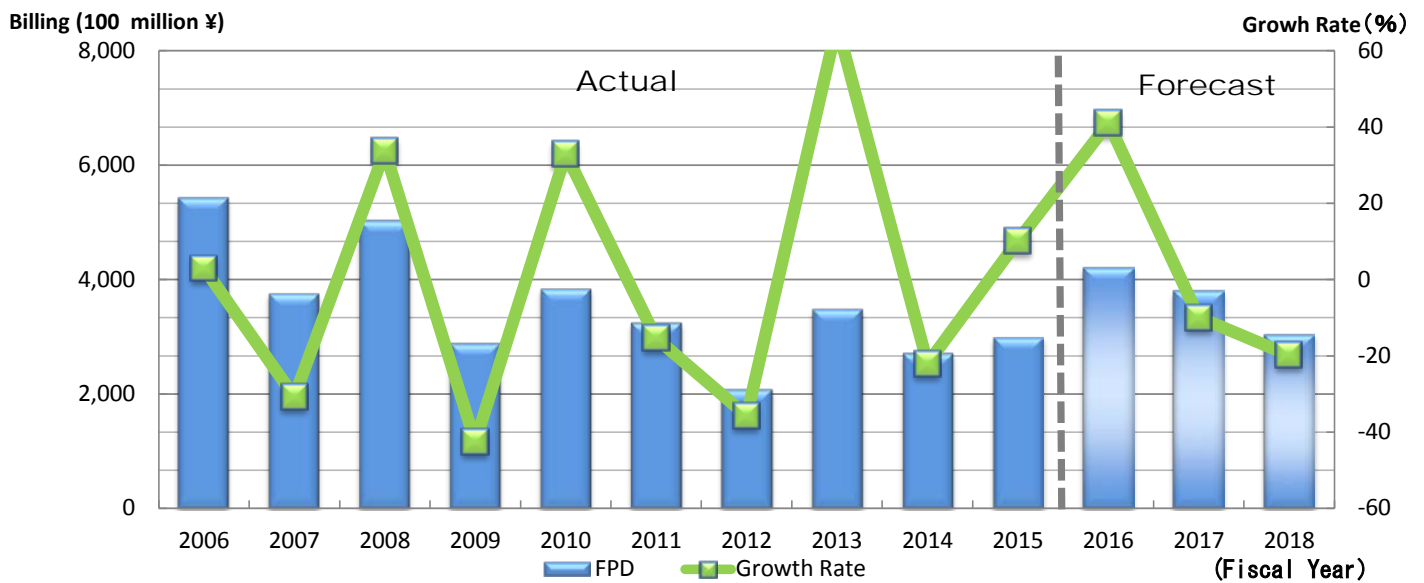
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July 2016 Forecast for Semiconductor and FPD Manufacturing Equipment

■3. FPD Manufacturing Equipment

【Forecast for Japanese Equipment Billing】

* "Japanese Equipment Billing " = Japanese manufacturers Domestic and Oversea Billing.



(CAGR : 2015-2018)

Fiscal Year	Actual										Forecast			CAGR
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Total (100 million yen)	5,429	3,761	5,031	2,887	3,840	3,250	2,089	3,485	2,717	2,993	4,223	3,805	3,050	
Growth Rate (%)	3.0	-30.7	33.8	-42.6	33.0	-15.4	-35.7	66.8	-22.0	10.2	41.1	-9.9	-19.8	0.6%

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