

Market Forecast Report
-Semiconductor and FPD Manufacturing Equipment-
[2014-2016 fiscal year]

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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. Toshio Maruyama), and as the result of market trend research from both the Board of Directors and auditors (total 17 companies) by SEAJ consensus.

For Semiconductor manufacturing equipment, 2014 fiscal year sales are forecasted to increase by 4.2 percent to 1,174.9 billion yen as expected memory makers' and logic makers' equipment investments were restarted in second half of 2013 and large investment by foundries is expected to continue. 2015 fiscal year sales are forecasted to increase by 10.1 percent to 1,293.5 billion yen. As a result, this means three consecutive years of positive growth for the semiconductor equipment market. In 2016, the fiscal year sales are estimated to slightly decrease by 2.7 percent to 1,258.2 billion yen due to the adjustment phase.

For FPD manufacturing equipment, in 2014, the fiscal year sales are forecasted to decrease by 11.0 percent to 310.0 billion yen due to the cutback investments for high-definition and the small and medium sized type panels. In 2015, the fiscal year sales are estimated to slightly increase by 6.5 percent to 330.0 billion yen due to the new large business investments in China. In 2016, the fiscal year sales are forecasted to decrease by 9.1 percent to 300.0 billion yen because of the concerning to the excess investment backlash.

(1) **Forecast period:** the fiscal year of 2014 to 2016 for three years

(2) **Forecast items:** Japanese Equipment and Japanese Market for Semiconductor and Japanese Equipment for FPD manufacturing equipment

(3) Forecast Background

(Semiconductor Industry)

The International Monetary Fund (IMF) World Economic Outlook published in April 2014 remarked that global growth is projected to strengthen from 3.0 percent in 2013 to 3.6 percent in 2014 with an upgrade in the speed of economic recovery. The U.S. economy is fairly steady both personal consumption and private investment, and growth is projected to be positive in euro area. In the meantime, in emerging market and developing economies, growth is projected to pick up gradually by less than 5.0 percent two consecutive years, thus not reaching high levels achieved in previous years. In 2015, global economic activity is estimated to increase slightly by 3.9 percent and by 4.0 percent in 2016.

Negative growth is forecasted in the PC market because demand will drop significantly. Meanwhile, demand for mobile appliances, which have led in market such as smart phones and tablets, continue to achieve high growth rates. In emerging markets, demand for low-priced products will play a key role and these products are especially expected to experience strong growth. The industrial electronics, information and telecommunications infrastructure field has a high future growth potential.

According to World Semiconductor Trade Statistics (WSTS) Semiconductor Market Forecast Spring 2014, an upward revision to the 2014 outlook was announced to 6.5 percent from 4.1 percent announced last autumn. While MOS micro sales are forecasted to increase by only 0.9 percent due to the sluggish sales of PC, logic sales are expected to increase by 7.1 percent. Memory sales, which maintain a recovery in pricing, are expected to increase by 7.5 percent. Therefore, sales in 2015 are forecasted to grow by 3.3 percent and sales in 2016 are forecasted to be slowly up by 4.3 percent.

The top three semiconductor companies continually represent 60 percent of all industry capital spending. Investments of logic and foundry will continue to make progress at the leading edge process technologies. Also, investment in memory, such as DRAM miniaturization and NAND high integration, is expected to experience strong growth in 2014 and 2015.

(FPD Industry)

The global TV market, the largest application for large flat panels, continues to remain in a slow growth phase while panel pricing is in sharp decline. The 4K ultra high-definition TV is expected to be in strong demand in future. While sales for high-definition viewing and both small and medium-sized type panel applications are continuously increasing for smart phone and tablet PCs, there are growing concerns about declining panel pricing and demand. But once improve panel revenues, it begins to show worsening trend. Therefore some of the top five panel maker's operating profit returned back into the red in the first quarter of 2014, but large investments are expected in 2015 because new large business investments planned in China.

(4) Summary

[Forecast of Japanese Equipment Billings for Combined Semiconductor and FPD Manufacturing Equipment]

In 2013, total semiconductor and FPD equipment sales increased by 19.3 percent to 1,476.3 billion yen. In 2014, total semiconductor and FPD equipment sales are forecasted to grow by 0.6 percent to 1,484.9 billion yen. The sales of semiconductor equipment are estimated to slight increase and the sales of FPD equipment are expected into adjustment phase. In 2015, sales are expected to increase by 9.3 percent to 1,623.5 billion yen because of expected increases in both semiconductor and FPD equipment to approximately the same level of 2010. In 2016, sales are forecasted to decrease by 4.0 percent to 1,558.2 billion yen due to the adjustment phase in industry investments

[Forecast of Japanese Equipment Billings for Semiconductor Manufacturing Equipment]

In 2013, sales increased by 9.7 percent to 1,127.8 billion yen. In 2014, equipment sales are forecasted to increase by 4.2 percent to 1,174.9 billion yen due to the memory investment recovery and continuing foundry investment. In 2015, sales are estimated to grow by 10.1 percent to 1,293.5 billion yen which means for three consecutive years of sales growth. In 2016, sales are forecasted to decrease by 2.7 percent to 1,258.2 billion yen because of adjustment phase.

[Forecast of Japanese Market Billings for Semiconductor Manufacturing Equipment]

In 2013, sales increased by 54.6 percent to 365.3 billion yen. In 2014, sales are expected to increase by 4.5 percent to 381.9 billion yen due to the on-going investments. In 2015, sales are forecasted to increase by 10.1 percent to 420.5 billion yen with positive expectancy of the investment by memory makers. In 2016, sales are forecasted to decrease by 3.0 percent to 407.9 billion yen

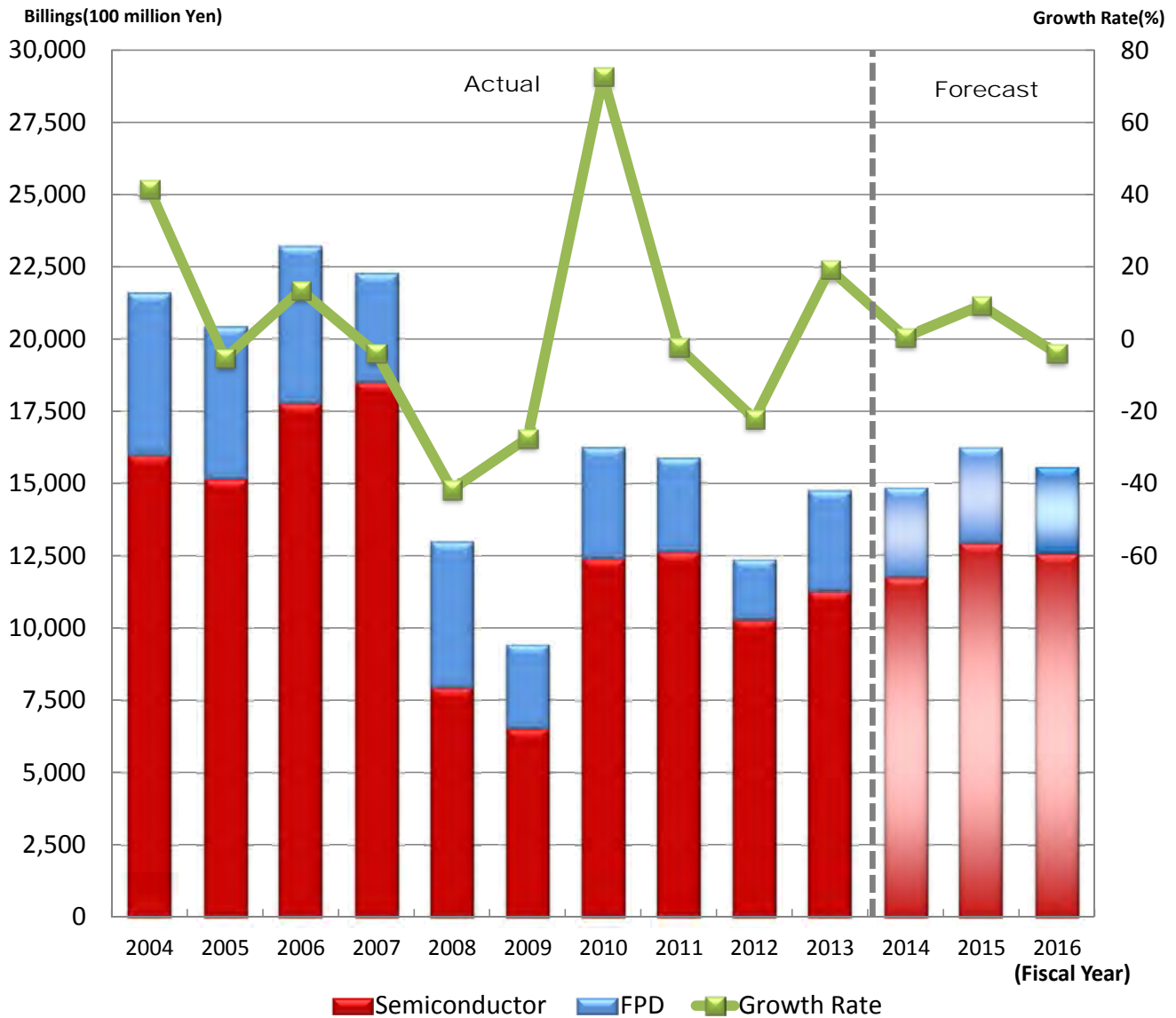
[Forecast of Japanese Equipment billings for FPD Manufacturing Equipment]

In 2013, sales increased by 66.8 percent to 348.5 billion yen. In 2013, equipment sales were strongly positive growth. In 2014, sales are estimated to decrease by 11.0 percent to 310.0 billion yen because investment will be settled down. In 2015, sales will slightly increase by 6.5 percent to 330.0 billion yen because the business investments in China will be restarted. In 2016, sales are forecasted to decrease by 9.1 percent to 300.0 billion yen due to the market slow down.

July 2014 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 : 2013-2016)

| Fiscal Year | Actual | | | | | | | | | | Forecast | | | CAGR |
|-------------------------|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|----------|--------|--------|------|
| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | |
| Semiconductor | 15,981 | 15,169 | 17,778 | 18,510 | 7,954 | 6,528 | 12,415 | 12,637 | 10,284 | 11,278 | 11,749 | 12,935 | 12,582 | 1.8% |
| FPD | 5,614 | 5,272 | 5,429 | 3,761 | 5,031 | 2,887 | 3,840 | 3,250 | 2,089 | 3,485 | 3,100 | 3,300 | 3,000 | |
| Total (100 million yen) | 21,596 | 20,441 | 23,206 | 22,271 | 12,985 | 9,415 | 16,255 | 15,887 | 12,373 | 14,763 | 14,849 | 16,235 | 15,582 | |
| Growth Rate (%) | 41.6 | -5.3 | 13.5 | -4.0 | -41.7 | -27.5 | 72.7 | -2.3 | -22.1 | 19.3 | 0.6 | 9.3 | -4.0 | |

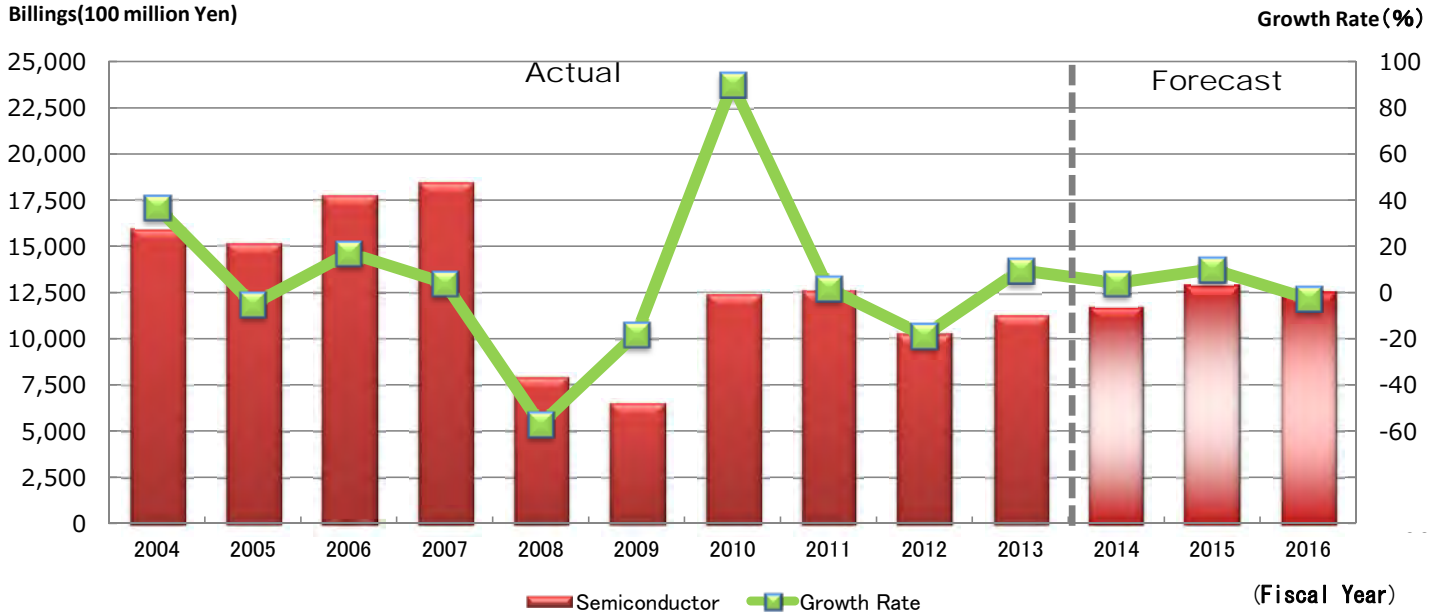
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July 2014 Forecast for Semiconductor Manufacturing Equipment

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

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

Billings(100 million Yen)



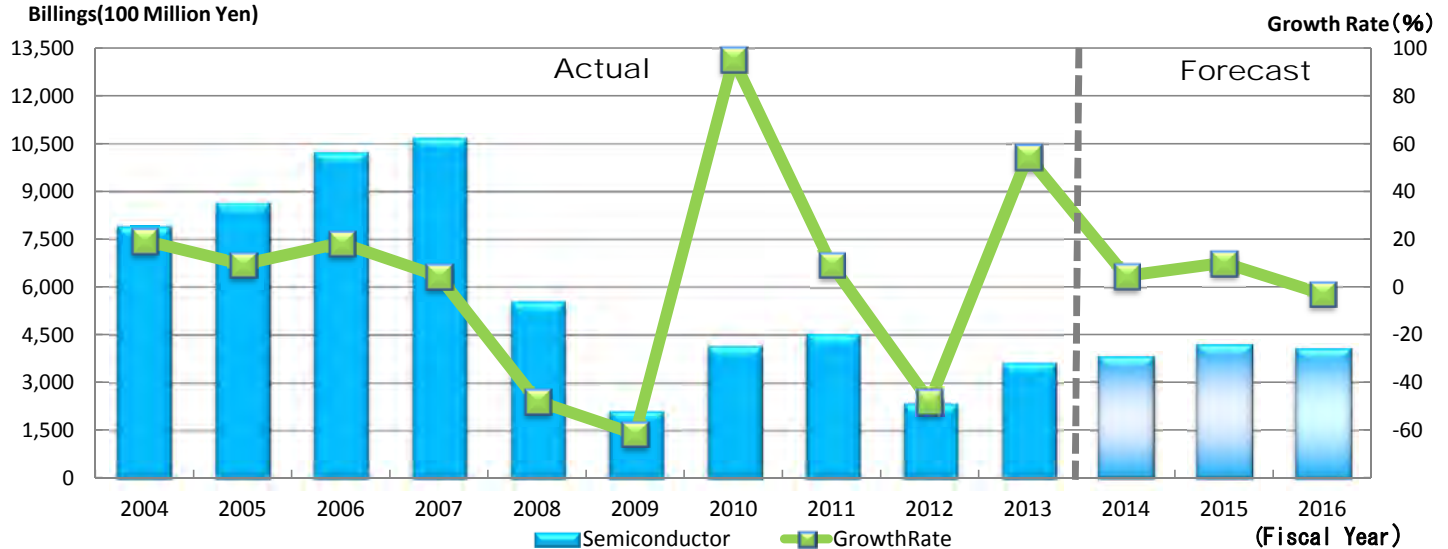
(CAGR : 2013-2016)

| Fiscal Year | Actual | | | | | | | | | | | Forecast | | | CAGR |
|-------------------------|--------|--------|--------|--------|-------|-------|--------|--------|--------|--------|--------|----------|--------|------|------|
| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | | |
| Total (100 million yen) | 15,981 | 15,169 | 17,778 | 18,510 | 7,954 | 6,528 | 12,415 | 12,637 | 10,284 | 11,278 | 11,749 | 12,935 | 12,582 | | |
| Growth Rate (%) | 36.9 | -5.1 | 17.2 | 4.1 | -57.0 | -17.9 | 90.2 | 1.8 | -18.6 | 9.7 | 4.2 | 10.1 | -2.7 | 3.7% | |

【Forecast for Japanese Market Billing】

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

Billings(100 Million Yen)



(CAGR : 2013-2016)

| Fiscal Year | Actual | | | | | | | | | | | Forecast | | | CAGR |
|-------------------------|--------|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|----------|-------|------|------|
| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | | |
| Total (100 million yen) | 7,918 | 8,658 | 10,241 | 10,694 | 5,567 | 2,130 | 4,162 | 4,552 | 2,363 | 3,653 | 3,819 | 4,205 | 4,079 | | |
| Growth Rate (%) | 19.4 | 9.3 | 18.3 | 4.4 | -47.9 | -61.7 | 95.4 | 9.4 | -48.1 | 54.6 | 4.5 | 10.1 | -3.0 | 3.7% | |

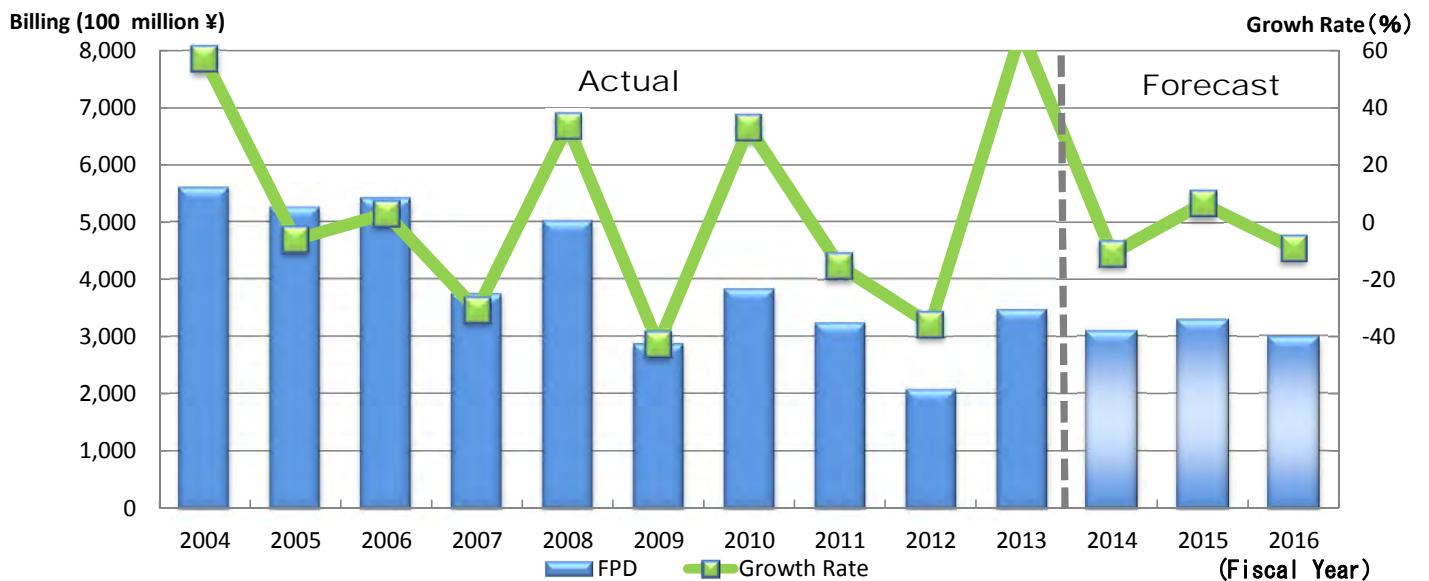
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July 2014 Forecast for Semiconductor and FPD Manufacturing Equipment

■ 3. FPD Manufacturing Equipment

【Forecast for Japanese Equipment Billing】

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



(CAGR : 2013-2016)

| Fiscal Year | Actual | | | | | | | | | | Forecast | | | CAGR |
|-------------------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|
| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | |
| Total (100 million yen) | 5,614 | 5,272 | 5,429 | 3,761 | 5,031 | 2,887 | 3,840 | 3,250 | 2,089 | 3,485 | 3,100 | 3,300 | 3,000 | |
| Growth Rate (%) | 57.1 | -6.1 | 3.0 | -30.7 | 33.8 | -42.6 | 33.0 | -15.4 | -35.7 | 66.8 | -11.0 | 6.5 | -9.1 | -4.9% |

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