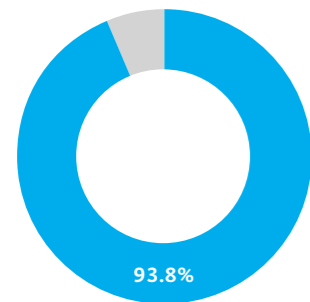


## Review of Operations and Business Outlook

### Semiconductor Production Equipment (SPE)

#### Share of Net Sales



#### 2016 Business Environment

Driven by the arrival of the internet of things (IoT), the growing sophistication of smartphones and data center servers continued unabated, while demand ramped up for higher-capacity memory and faster logic chips. Given this backdrop, investment growth in memory was particularly robust in the area of 3D NAND. In logic chips, capital expenditure was implemented primarily by foundries, which invested aggressively in cutting-edge 10 nm generation products. As a result, 2016 global capital expenditure for wafer fab equipment (WFE)\* grew more than 10% year on year to approximately US\$37 billion.

\* Wafer fab equipment (WFE): The semiconductor production process is divided into front-end production, in which circuits are formed on wafers and inspected, and back-end production, in which wafers are cut into chips, assembled and inspected again. Wafer fab equipment refers to the production equipment used in front-end production and in wafer-level packaging production.

#### Fiscal 2017 Business Overview

- ▶ Segment net sales grew 22.3% year on year to ¥749.8 billion.
  - By region, sales mainly grew in Taiwan, China and South Korea, reflecting booming investment in NAND flash memory and by foundries.
  - By product, rising demand and market share increases drove sales growth in the key field of etch systems. In deposition systems, sales of semi-batch ALD\*\* systems for cutting-edge miniaturization were double their fiscal 2016 level.
  - Sales in the field solutions business (encompassing sales of parts and used equipment, modifications and maintenance services) rose 12% year on year to approximately ¥208.0 billion.
- ▶ The segment profit margin rose from 20.1% in the previous fiscal year to 24.4%, due in part to the increase in net sales and a high rate of factory utilization.

\*\* ALD (Atomic layer deposition): An atomic level film deposition technique

#### Business Outlook

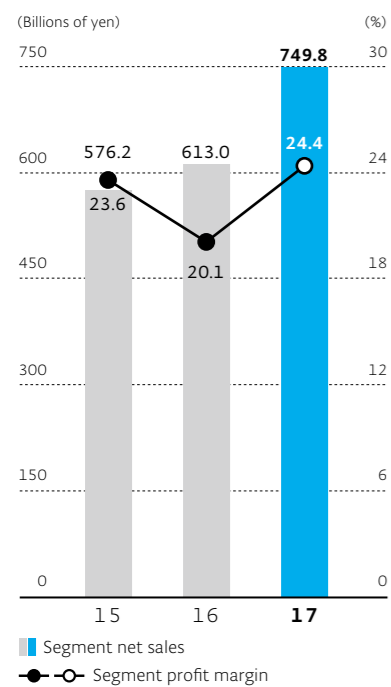
With the arrival of IoT, semiconductors are beginning to be used in all kind of everyday objects. At the same time, research into autonomous driving and AI is advancing toward commercialization. As a result, demand for cutting-edge semiconductors that can instantly process and analyze cloud data is growing rapidly. Backed by this expansion in demand, the WFE market is beginning to enter an accelerated growth trajectory toward the US\$40 billion mark and beyond. Tokyo Electron has positioned etch, deposition and cleaning systems, which are expected to see especially strong market growth, as key fields. By achieving technological differentiation in these fields, the Company aims to increase its profitability and market share.

In particular, 3D NAND requires advanced deposition technologies to increase the number of vertically stacked layers as well as etch technologies that can simultaneously etch said layers with high precision. Tokyo Electron will continue to hone its long-held strengths in deep hole etch technologies and expand its market share of etch systems used in the NAND field.

In logic chips, miniaturization using multiple patterning continues to advance. This multiple patterning uses etch and deposition technologies to realize microfabrication. Tokyo Electron aims to increase revenue and profit by expanding sales of etch systems, for which it boasts a high market share, as well as high-productivity semi-batch ALD systems and cleaning systems that reduce pattern collapse.

Furthermore, over the long term, the expected adoption of new materials and changes in transistor structure will lead to considerably more formidable and complex technological challenges. To address these challenges, Tokyo Electron will leverage its robust product lineup to both improve the performance of individual products and to support the rapid development and release of solutions that optimize entire processes. By taking part in our customers' technological plans for next-generation and future generation products from an early stage, the Company will accelerate its growth over the medium and long term.

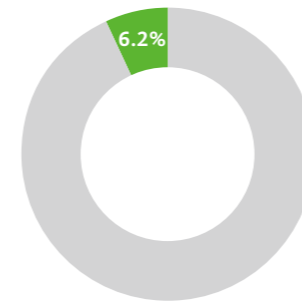
#### Net Sales and Profit Margin by Segment



Segment profit corresponds to income before income taxes on the consolidated statements of income.

### FPD Production Equipment

#### Share of Net Sales



#### 2016 Business Environment

In small- and medium-sized panels for smartphones and other mobile devices, on top of investment in conventional LCDs, capital investment targeting new OLED displays began in earnest, anticipating their widespread adoption. Driven mainly by this investment in small- and medium-sized panels, display panel capital investment in 2016 grew considerably year on year, surpassing US\$10 billion. Within this overall market, the equipment market for thin-film transistor (TFT) array processes,\* in which Tokyo Electron operates, grew about 30% from the previous year.

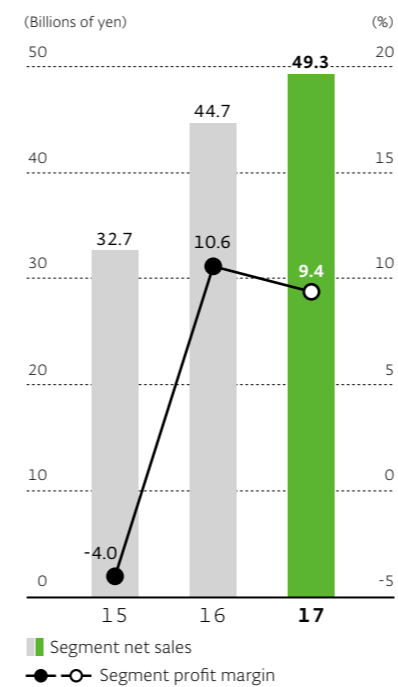
\* Thin-film transistor (TFT) array processes: The processes of manufacturing the substrates with the electric circuit functions that drive displays

#### Fiscal 2017 Business Overview

- ▶ Segment net sales rose 10.5% to ¥49.3 billion.
  - PICP\*\* etch systems for small- and medium-sized panels, which are especially competitive for use with high-resolution displays, were adopted by multiple customers, causing sales to expand substantially.
  - Tokyo Electron introduced and recorded sales of new PICP etch systems for large-sized panels.
- ▶ The segment profit margin decreased 1.2 percentage points to 9.4%, as growth in sales of highly profitable PICP etch systems was offset by aggressive investment in R&D related to equipment for generation 10.5 panels.
- ▶ Tokyo Electron captured business related to generation 10.5 panels through technological differentiation.

\*\* PICP: A plasma source that produces extremely uniform high-density plasma on panel substrates

#### Net Sales and Profit Margin by Segment



Segment profit corresponds to income before income taxes on the consolidated statements of income.

#### Business Outlook

In the display market, demand is expected to grow both for displays used in mobile devices and those used in televisions. As the market begins to grow again, Tokyo Electron aims to increase both its market share and profitability.

In small- and medium-size panels for mobile devices, displays continue to get larger amid growing demand for enhanced performance, including higher resolution and lower power consumption, as well as for flexible displays. In the field of OLED displays, which can meet these demands, needs are emerging for more advanced etching, and the manufacture of flexible displays is expected to lead to the development of new etch processes. Tokyo Electron's PICP etch systems, which offer excellent processing uniformity, are seeing firm sales growth. Going forward, the Company will adopt new platforms and introduce systems for new processes to leverage these expanding business opportunities and steadily realize growth.

Looking at large-sized panels for televisions, panels larger than 65 inches are expected to become popular going forward. Accordingly, multiple manufacturers, mainly in China, are planning to invest in equipment for generation 10.5 and 11 panels. Tokyo Electron will leverage its track record of providing coater/developers and etch systems used for mass production of generation 10 panels to build on the business it secured in fiscal 2017 and capture a large share of manufacturers' planned investment. Furthermore, to meet demand created by investment in high-resolution panels, including 4K and 8K, the Company is beginning to expand its PICP etch systems from small- and medium-sized panels, for which it has built a solid track record, to large-sized panels.

With an eye toward the establishment of a market for OLED televisions, Tokyo Electron has introduced an inkjet printing system for manufacturing large-sized OLED panels and delivered units to customers' development lines. Compared with existing evaporation systems, this system offers drastically improved material efficiency. Leveraging this strength, Tokyo Electron aims to build a strong position in this market.