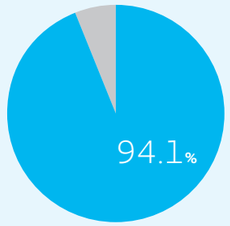
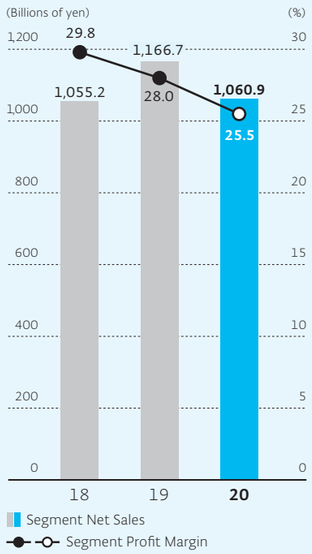
Review of Operations and Business Outlook

Share of Net Sales



Segment Net Sales and Profit Margin



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

2019 Business Environment

Investment by logic chip manufacturers and foundries in expanding production capacity for leading-edge technologies was robust, reflecting growth in demand for high-performance processors used in data centers and 5G smartphones. In contrast, memory chip manufacturers' investment underwent an adjustment following several years of investment to increase production capacity. As a result, the global market for wafer fab equipment (WFE),[1] which had seen uninterrupted growth since 2013, shrank 8% year on year to about US$55 billion.

1 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. WFE refers to the production equipment used in front-end production and in wafer-level packaging production.

Fiscal 2020 Business Overview

- Segment net sales came to ¥1,060.9 billion. While net sales and profit fell year on year due to the contraction of the WFE market, both exceeded forecasts.
  - By application, sales to memory chip manufacturers declined, but sales to logic chip manufacturers and foundries grew.
  - By product, the portion of net sales accounted for by coater/developers increased, reflecting the growth in investment by logic chip manufacturers and foundries.
  - Sales in the field solutions business (encompassing sales of parts and used equipment, modifications and maintenance services) rose 5.7% year on year. Sales of parts and services remained firm due to growth in the installed base and the high utilization rate of customers' fabs.
- The segment profit margin decreased from 28.0% in the previous fiscal year to 25.5%, as we continued forward-looking aggressive investment aimed at medium- and long-term growth in the midst of the adjustment in the WFE market.

Business Outlook

The transition to a data-driven society is accelerating, reflecting the adoption of IoT, AI and 5G, as well as the growing use of remote work arrangements, distance learning and remote medicine. Accordingly, demand for the semiconductors that enable such a society is expected to expand over the medium to long term. Within the SPE market, Tokyo Electron particularly expects ongoing innovation and market expansion in etch, deposition and cleaning systems, and has designated these as its three key fields. By differentiating our technologies and services in these fields, we aim to grow sales and profit.

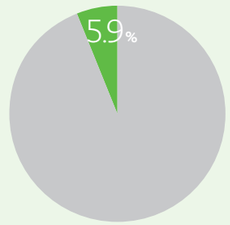
As the scaling of DRAM and logic chips continues and the number of layers in 3D NAND increases, the use of new materials and increasingly complex device structures are creating greater technological challenges. To turn these business opportunities into growth, in the area of etch, we will strengthen our competitive advantage based on process performance and productivity in HARC,[2] interconnects and patterning processes. In deposition, we boast technologies for batch, semi-batch and single wafer processes and will leverage this strength to offer optimal deposition methods while advancing the development of technologies for new materials. In cleaning, we will provide technologies to reduce fine pattern collapse and remove foreign particles and residue that degrade yields. In these ways, Tokyo Electron seeks to expand its SAM[3] share in its three key fields.

In the markets for power devices and discrete semiconductors for IoT and automotive applications, which are expected to see continued growth, we will increase our market share by introducing reengineered equipment leveraging technological assets from products we previously manufactured.

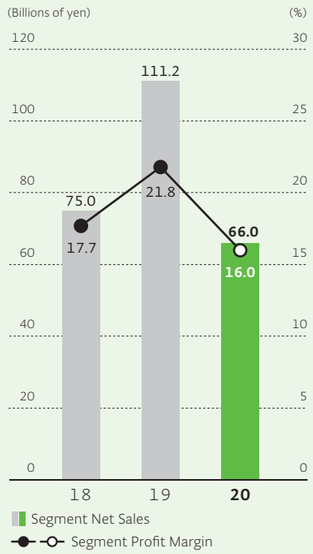
Furthermore, the importance of co-optimizing multiple processes is growing, creating greater needs for services that help increase uptime and yields. Tokyo Electron will leverage the insights provided by its diverse product lineup to conduct joint development with customers from the early stages of each new technology node. By doing so, we aim to be at the forefront in offering integration technologies that realize co-optimization. In addition, by providing services with higher added value, such as remote equipment maintenance and equipment diagnostics using AI, we aim to achieve further business growth.

2 HARC (High aspect ratio contact) process: A process for forming deep holes or trenches that requires advanced processing technology
3 SAM: Served available market

Share of Net Sales



Segment Net Sales and Profit Margin



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2019 Business Environment

Capital investment in generation 10.5 panel for LCD TVs remained strong. However, investment in OLED display softened, reflecting the end of a cycle of investment in the previous year. Although investment in generation 6 panels for OLED display began to improve in the second half of 2020, on a full-year basis, the equipment market for TFT array processes,[1] in which Tokyo Electron operates, shrank 25% year on year to about US$6.5 billion.

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

Fiscal 2020 Business Overview

- Segment net sales fell 40.6% year on year to ¥66.0 billion. This was mainly because the market contracted 25% year on year and some sales were delayed due to the impact of COVID-19.
- The segment profit margin decreased 5.8 percentage points from the previous fiscal year to 16.0%. While the profit margin fell with net sales, efforts to secure downward flexibility helped maintain profitability.

Business Outlook

In the FPD market, efforts to enhance display resolution, functionality and design are expected to drive continued technological innovation. In response to increasingly advanced technological requirements, Tokyo Electron aims to achieve differentiation using its superior process technologies to expand its market share and raise the operating margin to 30%.

In small- and medium-sized panels for mobile devices, in addition to such technologies as LTPS[2] and IGZO[3] that enable even greater resolution, self-lighting OLED display and foldable devices made with flexible displays are expected to gain broader utilization going forward. These changes will drive an increase in the number of masks and dry etch processes as well as a need for more precise patterning. Tokyo Electron will further enhance the performance of its dry etch systems and coater/developers to leverage these expanding business opportunities and achieve business growth.

Looking at large-sized display, a shift from LCD to OLED is expected across a wide range of applications, including TVs, high-end monitors, and displays installed in vehicles and public places. Tokyo Electron will maintain its competitive advantage in generation 10.5 panels while expanding its PICP™[4] etch systems, which provide superior processing uniformity, to generation 8.5 and 10.5 panels.

Tokyo Electron has released inkjet printing systems, previously marketed only for generation 8.5 and 4.5 panels, for generation 2 panel development lines in order to accelerate technological development aimed at adoption for mass production. Our customers have been evaluating the inkjet printing system. In the medium to long term, we aim to further improve profitability based on differentiation in dry etch systems and coater/developers as well as the contributions of inkjet printing systems.

2 LTPS: Low temperature poly-silicon
3 IGZO: An oxide semiconductor containing indium, gallium and zinc
4 PICP™: A plasma module that produces extremely uniform high-density plasma on panel substrates