A new growth phase in the semiconductor and display industries

Meeting customer needs with innovative technologies that integrate our products’ strengths

Question 01

Tokyo Electron achieved excellent results in fiscal 2017, including record-high profit. Please tell us about the Company’s achievements and initiatives during your time as CEO so far.

In Tokyo Electron’s key business fields, our products have been well received by customers and won increased market share. We are steadily advancing such initiatives as making technological proposals using our robust product lineup as we pursue the goals of the medium-term management plan, which ends in fiscal 2020.

Since establishing the medium-term management plan in 2015, we have been working to achieve world-class profitability. To reach this goal, we have been focusing on reinforcing product competitiveness, responsiveness to customers and operational efficiency as we build strong business and technological platforms.

As a result of our efforts so far, especially in the key fields of etch, deposition and cleaning systems, customers have praised our products for their performance and adopted them for use in additional mass production processes. Consequently, our market share has increased in all our key fields, and I feel that our value to customers is also steadily rising.
Interview with the CEO

Looking at medium- and long-term growth efforts, we have deepened technological collaboration with our customers’ R&D divisions. By doing so, we have been able to more rapidly identify hurdles in the development of cutting-edge devices and accelerate technological development aimed at creating competitive next-generation products. Furthermore, we have assigned marketing and R&D general managers for each customer to facilitate the provision of technological solutions that leverage the strength of Tokyo Electron’s robust product lineup and thus improve our responsiveness to customers.

As part of these efforts, we established a new process integration center, which has particularly reinforced our development framework for next-generation patterning technologies.

By both increasing our market share in our current key fields and advancing initiatives from a medium- and long-term perspective, we have been making steady progress toward the goals of the medium-term management plan.

Question 02
What kind of growth do you expect in the semiconductor and display industries going forward?

With the dawn of the internet of things (IoT), the applications of semiconductors and displays are expanding dramatically. Accordingly, the SPE* and FPD** production equipment markets are on the cusp of a new growth phase.

In the past, semiconductor demand, driven largely by PCs alone, repeatedly rose and fell every three to four years, in what was known as the silicon cycle. The arrival of the IoT, however, marks a fundamental shift, as all kinds of devices and objects connect to networks, rapidly expanding applications for semiconductors.

In the near future we will see the adoption of next-generation 5G telecommunications standards, which will serve as the infrastructure for the full-scale IoT. With this, even greater volumes of data will be sent to the cloud for instant processing at data centers. As such new technologies and services as artificial intelligence (AI), autonomous vehicles, telemedicine and fintech mature, the role of semiconductors as their underlying foundation will only grow.

As a result of this massive increase in data transmission volumes and diversification of semiconductor applications, the SPE market is now on the verge of a new growth phase.

The display industry is also changing, with the creation of large-sized OLED TVs and the growing range of display applications, such as display panels used in vehicles, head-mounted displays for augmented/virtual reality, and digital signage. These changes are driving demand for technological innovation to realize displays that are, for example, flexible, higher resolution, larger sized or less power consuming. As a result, the market is beginning to expand.

Question 03
You mentioned that the market is headed for a new growth phase. How will you turn market changes into business expansion?

In light of the sophisticated technological hurdles our customers face, we will further hone our product development capabilities and customer responsiveness in order to provide greater added value.

To meet demand for semiconductor devices that are more powerful and faster while consuming less power, semiconductor production equipment manufacturers face growing expectations to deliver technological innovation in such areas as cutting-edge patterning, new device structures and new materials. Few companies can meet these expectations. For us, however, these expectations represent tremendous business opportunities because Tokyo Electron offers wide-ranging solutions to sophisticated technological challenges. Leveraging the Company’s cutting-edge core technologies and robust product lineup, we are offering optimal integrated process solutions. We will continue to use our excellent product development capabilities and customer responsiveness to achieve business expansion.

* SPE: Semiconductor production equipment
** FPD: Flat panel display
Interview with the CEO

We have raised the targets of the medium-term management plan, and are taking bold action to target sales and profit expansion that greatly outpaces market growth.

Reflecting ongoing market growth, when we presented our progress under the medium-term management plan in May 2017, we also revised the assumed size of the wafer fab equipment (WFE) market used in the plan’s financial model from US$37 billion to US$45 billion, and significantly increased the plan’s corresponding net sales target from ¥900 billion to ¥1,200 billion.

Etch systems are one of our key businesses, and are expected to see particularly great market expansion going forward. For this business, we are building a dedicated logistics facilities to improve productivity and production capacity. By doing so, we are laying the groundwork for sales expansion that includes raising our market share. Furthermore, we are building new R&D facilities, where we will develop high-value-added etch technologies.

Deposition systems also offer a large market, and our business in this area has room to grow. Aiming to reinforce this business, we merged the subsidiaries for the Yamanashi and Tohoku plants to promote technological integration and increase efficiency. We continue to strengthen the development of products for next-generation devices with increasingly complex structures.

Going forward, we expect to see major value creation through technological innovation in the production equipment business. By further differentiating our products and services in this business, we aim to realize world-class profitability.

**Market Assumptions and Financial Targets**

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<thead>
<tr>
<th>WFE Market Size</th>
<th>US$ 42 billion</th>
<th>US$ 45 billion</th>
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<tbody>
<tr>
<td>Net Sales</td>
<td>¥1,050 billion</td>
<td>¥1,200 billion</td>
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<tr>
<td>Operating Margin</td>
<td>24%</td>
<td>26%</td>
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<tr>
<td>ROE</td>
<td>20 – 25%</td>
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***Wafers 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.

Interview with the CFO

**Question 04**

Tokyo Electron has a strong balance sheet and tremendous capacity to generate cash. How are you planning to use the Company’s cash on hand?

We will maintain a healthy balance of investment in growth and shareholder returns as we work to ensure continued profit growth and maximize corporate value.

The pursuit of profit is indispensable to sustainable corporate growth. Profit generated will first be reinvested to create innovative technologies in order to power the Company’s continued growth.

As the industries in which we operate enter a new growth phase, the range of technologies in which Tokyo Electron must advance R&D is growing wider than ever. The resources we can dedicate to R&D, however, are finite. We will select projects to pursue based on careful examination of their potential return in order to concentrate our resources effectively.

As for shareholder returns, under the medium-term management plan unveiled in fiscal 2016, we raised the target payout ratio to 50% and set a lower limit on the annual dividend per share of ¥150. In fiscal 2017, we paid our highest ever annual dividend per share. We will continue to flexibly consider stock repurchases, taking a comprehensive view of such factors as investment needed for growth, cash on hand and the macroeconomic environment.

By achieving the goals of the medium-term management plan and further improving corporate value going forward, we will do our utmost to meet shareholder expectations.