Fiscal 2014, the year ended March 31, 2014, was the 50th year since Tokyo Electron's founding, a big milestone for the Company. We recorded a net loss of ¥19.4 billion for the year, for which I offer my apologies to our shareholders.

Otherwise, from the perspective of establishing an operating platform for the future, including business reorganization and the decision to merge with Applied Materials, it was a very meaningful year, characterized by transformation aimed at the next fifty years.

Semiconductors have long played a central role in industry, and their role today continues to grow only more important. As a leader in the markets for production equipment of semiconductors and flat panel displays (FPDs), we support the very foundation of modern society, we further strengthened our operating base, with an eye toward growth and sustainable development going forward. In fiscal 2014, we withdrew from the photovoltaic panel production equipment business, reorganized R&D sites and reduced our stake in Tokyo Electron Device, which operates the electronic components and computer networks business, changing it from consolidated subsidiary to equity-method affiliate. We took these steps to concentrate management resources in our core semiconductor and FPD production equipment businesses and thus increase profitability and strengthen our financial standing.

We also made the major decision to enter into a business combination with Applied Materials, aiming to strengthen our operating base for the next 50 years. We will use the strength of this operating base to realize further business growth and, through growth of the Company as a whole, return profits to shareholders.

Last September, we announced our decision to merge with Applied Materials, aiming to create a global innovator in the semiconductor and FPD production equipment industries and achieve continued growth over the next half century. This merger is a major step in determining the direction of the Company over the next 50 years and beyond. I am sure that the two companies will work together to set and achieve ambitious strategic and financial goals.

As advanced information and communications networks become more deeply engrained in society, growth opportunities in the semiconductor and display industries will continue to increase dramatically. As such, the importance of such industries as the backbone supporting the global spread...
Interview with the CEO

of these networks is growing. For the people of the world to enjoy the benefits of these developments, however, advanced technological innovation and exhaustive cost reductions are of pressing importance. In that sense, the semiconductor industry stands at its greatest inflection point ever.

By joining forces, the two companies, both world leaders in the semiconductor industry with its forecast that in 2017, the world will enter a new cycle of expansion with its forecast that in 2017, the world will enter a new cycle of expansion in which the growing use of such products and services increases the value of the network as infrastructure, and this increase in value drives further growth in usage. The scale of this potential market is immeasurable.

Semiconductors support the construction of networks that enable the transmission of such vast amounts of data and the development of mobile devices. As such, the continued evolution of semiconductors is indispensable. This means that the role of manufacturers will be more important than ever. We must not only improve device performance by increasing speed and capacity while reducing power consumption, but also develop breakthrough technologies that reduce costs. I’m sure that by creating innovative new technologies that contribute to the development of advanced information and communications networks, the SPE market will continue to grow.

The semiconductor industry is facing the greatest inflection point in its history. Until now, semiconductors have developed according to Moore’s Law through constant miniaturization. However, as we approach the physical limits of miniaturization, we are now encountering various technological barriers that cannot be overcome merely by further developing existing technologies. To break through these barriers, besides conventional miniaturization, various innovative new technologies are emerging. These include 3D NAND flash, STT-MRAM (a form of magnetic memory), FinFET 3D transistors, advanced packaging, and multiple patterning that uses existing lithography to form finer patterns by applying etching and deposition (Figure 1).

Question 3
Please tell us your thoughts on the future growth of the semiconductor production equipment (SPE) market and what you think the drivers of that growth will be.

Last year, Cisco Systems shook the industry with its forecast that in 2017, half the world’s population will be connected to the internet, and annual global IP traffic will reach 1.4 zettabytes*, exceeding the total 1.2 zettabytes of traffic between the birth of the internet in 1984 and 2012 in just one year. Our digital network-based society is on the verge of a new period of expansion with the arrival of the zettabyte era.

In recent years, the term “Internet of things” has been cropping up more and more. As all kinds of “things” connect to the internet, the expansion of new products and services that make sophisticated use of vast amounts of data is expected in virtually all fields. We are entering a new cycle of expansion in which the growing use of such products and services increases the value of the network as infrastructure, and this increase in value drives further growth in usage. The scale of this potential market is immeasurable.

Semiconductors support the construction of networks that enable the transmission of such vast amounts of data and the development of mobile devices. As such, the continued evolution of semiconductors is indispensable. This means that the role of manufacturers will be more important than ever. We must not only improve device performance by increasing speed and capacity while reducing power consumption, but also develop breakthrough technologies that reduce costs. I’m sure that by creating innovative new technologies that contribute to the development of advanced information and communications networks, the SPE market will continue to grow.

* 1.4 zettabytes: An amount of data equivalent to the storage capacity of 362 billion DVDs.

Figure 1: Diverse technological development that supports semiconductor device innovation and leads the SPE market
The market for FPD production equipment is firm, reflecting active capital investment in small- and medium-sized panels for smartphones, tablets and other mobile devices as well as accelerating investment for large-sized panels in China. The display technology required for smartphones, 4K TV and other cutting-edge devices is growing more advanced, and the use of low-temperature polysilicon (LTPS) and indium gallium zinc oxide (IGZO) is advancing in thin-film transistors (TFT) to achieve higher functionality, including higher definition, higher image quality and lower power consumption. In response to these technological changes, Tokyo Electron is introducing etch systems that employ new plasma technology, building a competitive edge in the production equipment market for large panels.

The use of OLED displays, heralded as the next generation of display, is expected to soon expand from present applications in mobile devices to larger panels, including large-sized TVs. In the first half of 2014, Tokyo Electron began sales of inkjet printing systems for manufacturing generation eight (Gen8) OLED panels. This system achieves materials usage efficiency that is far higher than that of the conventional evaporation method, and is expected to contribute greatly to the production of larger panels for TVs and the reduction of costs. Going forward, I think we will see more diverse applications, including flexible and wearable displays, and continued technological innovation geared toward even better image quality.

Interview with the CEO

Question 5
Please tell us about the outlook for the FPD production equipment business.

The market for FPD production equipment is firm, reflecting active capital investment in small- and medium-sized panels for smartphones, tablets and other mobile devices as well as accelerating investment for large-sized panels in China. The display technology required for smartphones, 4K TV and other cutting-edge devices is growing more advanced, and the use of low-temperature polysilicon (LTPS) and indium gallium zinc oxide (IGZO) is advancing in thin-film transistors (TFT) to achieve higher functionality, including higher definition, higher image quality and lower power consumption. In response to these technological changes, Tokyo Electron is introducing etch systems that employ new plasma technology, building a competitive edge in the production equipment market for large panels.

The use of OLED displays, heralded as the next generation of display, is expected to soon expand from present applications in mobile devices to larger panels, including large-sized TVs. In the first half of 2014, Tokyo Electron began sales of inkjet printing systems for manufacturing generation eight (Gen8) OLED panels. This system achieves materials usage efficiency that is far higher than that of the conventional evaporation method, and is expected to contribute greatly to the production of larger panels for TVs and the reduction of costs. Going forward, I think we will see more diverse applications, including flexible and wearable displays, and continued technological innovation geared toward even better image quality.

Question 6
After the merger, how will you combine the distinct corporate cultures of Tokyo Electron and Applied Materials?

To ensure the success of such a large-scale, cross border merger, mutual understanding will be extremely important. To achieve optimal corporate operations beginning as soon as the merger takes effect, immediately after the merger was announced, we set up a team together with Applied Materials to prepare. The various departments of the two companies are engaged in regular dialog to understand one another's ways of doing business. I'm sure that this will enable us to realize optimal operations. From a similar perspective, I think that the presence in Japan of Gary Dickerson, who will be the CEO of the new company, will be of great benefit. For the company to succeed, there is no doubt that the CEO will need a thorough understanding of Tokyo Electron's operations and corporate culture. We are also in the process of nailing down the new company's corporate mission, vision and values. These form the foundation of operations, and we are working to incorporate the best of both companies. I'm confident that by communicating the direction and ideals of new company to employees and sharing principles of action and common motivations, the employees from both companies can progress together toward the unifying goal of becoming a global innovator. We hope to put in place a corporate culture framework that sets the world standard and endeavor with all employees from both companies to make the merger a success.

Question 7
What effect does the merger with Applied Materials have on your policy regarding shareholder returns and dividends?

By merging the two companies, we will be able to create more competitive products and generate even greater profits, so I expect shareholder returns to increase significantly. We also plan to carry out share repurchases amounting to US$3 billion within twelve months of the merger’s completion, which, together with new synergies, will be accretive to earnings per share exiting the first year. Serving the interests of shareholders will continue to be a top priority of the new company, and we will remain focused on increasing shareholder value.