Global economic conditions have been undergoing dramatic change, and this has had a great impact on the electronic equipment sector as well. Could you please give us your impressions of how the business environment affects Tokyo Electron?

The semiconductor industry is undergoing steady consolidation, creating a much more oligopolistic market. For a company like Tokyo Electron, which manufactures semiconductor production equipment (SPE), it is natural to anticipate that competition is going to get increasingly fierce. However, I regard this competitive phase as the preparation stage for a subsequent period of renewed and rapid growth.

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The global economy has contracted rapidly since autumn 2008, and there are concerns that the current recession is likely to be a prolonged one, posing continued difficulty for management over the long term. During recessionary periods, demand in the electronics industry for items such as PCs, mobile phones and other electronic equipment drops off, and manufacturers delay or freeze new investments in plant and equipment. With unit prices falling and production volume being cut back, the pace of structural reorganization and consolidation in the global semiconductor industry is accelerating, thus creating a more oligopolistic industry structure. For companies in the SPE industry, like Tokyo Electron, this means a more competitive environment.
business environment, and this situation seems to persist for some time. However, as is always the case during eras of social and industrial change, it is important for companies to take a long-term perspective, striving to respond swiftly and appropriately to change in the industry structure, and changes in customer needs. In this context, we consider it essential to develop and try new plans from a broader perspective.

The world is also experiencing a dramatic change in people’s values related to energy production and the environment. Thus, there is a rising need for technology that can help to solve today’s environment-related challenges. Semiconductor devices will be essential in the drive to develop high-performance networks and a more environmentally friendly society. As the devices attain even higher integration, and are introduced in a wider range of applications and locations, it will stimulate market growth in the SPE industry over the medium-to-long term. Furthermore, in order for semiconductors to meet expectations – for example, in terms of reducing energy consumption – new technological breakthroughs will be required. Pushing the envelope of technological advance, both in process development and in the creation of new equipment, is one of the most important roles that Tokyo Electron can play in the industry.

Therefore, even though current business conditions are harsh, I prefer to view this as a preparatory phase, which is necessary in order to lay the groundwork for the next phase of growth. Tokyo Electron is continuing to make selective and aggressive R&D investments which we believe will bring the strongest future growth. In this way, we expect to bolster the Company’s competitiveness in preparation for future growth.

Having said that, Tokyo Electron is also taking measures to deal with the ongoing recession. During fiscal 2009 (the year ended March 2009), we implemented cost reduction plans to the fullest extent possible, and took steps to streamline operations. We have adjusted the allocation of personnel and assets to more appropriately match the scale of business activities and the prospects for future growth. Other measures, such as cutting performance-linked bonuses and drastically adjusting the number of contract employees, enabled Tokyo Electron to reduce fixed costs by ¥40.0 billion. These swift responses to a rapidly changing business environment allowed the Company to greatly lower its break-even point, and post a positive profit figure for the fiscal year. In fiscal 2010 we aim to reduce fixed costs by an additional ¥30.0 billion and further strengthen the Company’s financial structure.
What strengths does Tokyo Electron possess to address the current difficult business environment?

Joint product development capability with global customers, and a solid financial base will allow Tokyo Electron to continuously offer highly reliable products that maximize the customers’ mass-production capabilities and process performance at the best value.

Today, semiconductor devices must be even more reliable, higher in performance and lower in energy consumption than ever before. Tokyo Electron provides SPE which helps chipmakers meet these demands. The Company bases its strength on an extensive, worldwide base of customers which has remained very loyal. Tokyo Electron seeks to identify precisely the issues and requirements that each customer faces, and then works closely with the customer to develop products that match these needs. This allows us to develop highly efficient and unique products and solutions for each customer, and to earn strong bonds of trust in return. As technology has improved, the role of a SPE manufacturer has expanded as well. The SPE company is expected to provide not only the wafer process technologies that help to make chips smaller and faster, but also process development, process integration, and even solutions to production line management, to improve the performance of the chips themselves, and methods for increasing production capacity or reducing energy consumption. Tokyo Electron has a strength in reputation for providing process integration solutions using a wide range of products. One good example involves miniaturization efforts in the development of next-generation memory chips. In 2008, Tokyo Electron developed a form of double-patterning technology which offers not only a high level of process performance, but also superior mass-production features.

As the range of technological expertise and development skills that Tokyo Electron should address expands, we have begun working together with universities and materials companies, in consortium projects, in an aggressive effort to acquire the very latest in technology. The Company even cooperates on process integration projects with other SPE manufacturers in strategic collaborations that help us to generate high value-added products, while reducing development time and related costs.

Even though the R&D expenditure is rising with each passing year, Tokyo Electron has established a solid financial base with enough funds to ensure that we can continue making these critical investments in product development, even at times of economic recession. Thanks to the success of various measures that we adopted in the past aimed at improving profitability, Tokyo Electron has an extremely strong balance sheet, a total of ¥210.2 billion in funds on hand as of the end of March 2009, and a debt-equity ratio of just 0.7%.

Tokyo Electron intends to further grow by providing the high-value added products that respond to customers’ real needs, while strengthening information gathering capability, improving its competitiveness in case technologies and cutting costs.
If Tokyo Electron leverages its competitiveness, what sort of growth are you expecting and how do you intend to achieve it?

By helping customers to develop high-performance, high-speed, low-energy-consumption semiconductor devices, Tokyo Electron is aggressively making efforts to acquire innovative technology. In the future, the Company will remain a central player in the ICT (Information and Communication Technology) industry. We aim to take advantage of a large variety of acquired technology to generate new business.

As efforts to integrate semiconductors continue, these devices will become not only smaller but more advanced, to the point that they will begin to pervade every corner of the globe. Those advances will continue to be driven by improvements in production equipment – a business that will remain at the core of Tokyo Electron’s operations – as we strive to develop bold solutions to the market’s needs. Today, the pace of technological progress is more rapid than ever before, and the fate of business often depends on a company’s success in developing the technology. If Tokyo Electron is to continue playing a central role in the industry, it is very important that we try to anticipate future changes and work ceaselessly to develop the most appropriate products and solutions to the demands of the new era before competitors can do so. The Company will continue to enhance its development capability and to deliver products that the market needs, in a timely fashion, thereby maintaining or even increasing our leading market share in each product segment. As a means of both improving product quality and reducing cost, we will also continue ongoing efforts to reform production activities, considering the design concept in the initial development phase to achieve the maximum possible benefit once the product enters the mass production phase.

We also need to recognize that the market, in which Tokyo Electron operates, comprises only a part of the overall SPE market. The Company will redouble its efforts to acquire the necessary technologies, and accelerate productization, in segments that promise future growth. In this way, we can continue to expand our share of the broader market.

Meanwhile, we intend to keep in mind the tremendous value of the technology that we have compiled over the years, in diverse product segments, and in customer support capability. We will leverage these assets to strengthen our position in the equipment peripheral businesses and aggressively seek to enter new businesses. Tokyo Electron is focusing on “peripheral” businesses related to production equipment, such as spare part sales, maintenance, system modifications, and other “post-sales businesses.” One prospective new business for the Company is the field of environment-related technology. The market for solar power generation, for example, is likely to grow dramatically in the next few decades. But in order for our society to enter an era in which solar power generation is truly ubiquitous, further advances in technology will be essential to improve the efficiency of energy conversion from solar energy to electrical energy, and to develop production equipment that can mass-produce photovoltaic cells efficiently. These advances would greatly bring down the cost of solar power generation. Tokyo Electron is dedicating its efforts to the development of such technologies, in the hope that the Company can provide high added-value and build a business with strong growth prospects.

Toward More Growth

restored operating margin to 10%

achieved record sales and profit

achieved 18.6% operating margin

structural reform period

- reduced fixed expenses
- adjusted inventory

fy2002 – fy2004

first medium-term management plan

- enhanced new product creation
- strengthened manufacturing
- improved business efficiency

fy2005 – fy2008

second medium-term management plan

- further improve operating margin

fy2009 –

new growth strategy

- develop new businesses

achieved 18.6% operating margin

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You mention post-sales businesses as an area of focus for Tokyo Electron. Could you discuss these businesses in a bit more detail?

Many customers have asked Tokyo Electron to help them realize the maximum productive use from their existing equipment. This has convinced us that there is excellent potential for growth in the post-sales market. With a newly established organization for post-sales business, we are taking active steps to cultivate and address this potential market as never before, as a way of expanding revenues.

There are currently over 50,000 pieces of Tokyo Electron production equipment in operation at customer plants worldwide. Therefore, post-sales operations offer a potentially vast market for the Company. In the past, this business was mainly at the request and initiative of the customer. Tokyo Electron is now taking the initiative, and we hope to build the business into a substantial source of future revenues.

In April 2009 we combined all post-sales operations into a single business unit. In the past, these operations were fragmented, with each product and business unit operating its own separate, independent post-sales structure. By changing this to a single structural unit which operates across product segments, we hope to increase business opportunities and reduce costs to optimize business operations and maximize their future profit contributions. Some of the specific measures include a review of terms and condition for the sale of consumables and spare parts, as well as the system for maintenance contracts. We are also reorganizing our product service bases, both in Japan and overseas, and seeking ways to maximize the profit generated by a single product over its entire operating life cycle. It is expected that some semiconductor manufacturers will close production facilities, and find themselves with a considerable stock of used production equipment that they would like to continue using productively at a different production site. This is likely to create rising demand for some sort of operation that can modify equipment which Tokyo Electron sold and delivered to a customer in the past, re-install it in a new location and put it back into useful operation. Our customer base is also shifting, from a U.S. and European orientation in the past to a heavier focus on Asia. Therefore, the Company will need to provide Asian customers with increased levels of support and service. In doing so, we have an excellent opportunity to expand in markets that are likely to see rapid future growth.

Tokyo Electron is also trying to play a role in the issue of environmental conservation, by actively developing technology and measures to address global warming, and striving to reduce the environmental footprint of its products by redesigning and developing production equipment with less of an environmental impact. As equipment-related businesses become increasingly central to our operations, we expect this to not only boost sales and profit overall, but also to bring stable earnings.

Aiming for Higher Goals
Strengthening Post Sales Operations

- Overhaul
- On-call service
- Relocation
- Parts/Consumables
- Refurbish
- Service contract
- Environment-friendly
- Preventive maintenance
- Modification/Upgrade
- Repair

Worldwide TEL products in operation
50,000 systems

More new business opportunities, respond to demand for longer usage of equipment with diversified applications
You also mentioned the photovoltaic (PV) cell production equipment business. Could you please tell us a little more about this new business?

The market for photovoltaic cells is now entering its very early phase of growth. By accelerating our efforts to develop new, revolutionary technology, Tokyo Electron is not only making a valuable social contribution, but also hopes to develop a third major pillar of company earnings.

The technologies that have driven economic growth today have a very noticeable impact on the environment, and since this is now beginning to cause environmental destruction on a global scale, it is clear that we are reaching the limits of economic growth under the old model. From a longer-term perspective, the only way that we can maintain economic growth is to develop innovative technologies that will help to gradually reduce the environmental burden of our economic activities.

Today, photovoltaic (PV) cells are attracting a great deal of attention because they promise a clean source of electric power generation which can help address the issue of global warming, and there is strong interest in developing large-scale electric power generation facilities using this technology. Since PV cells are almost ideal as a way of generating power while preserving the environment, they are a perfect match for the environmental policies adopted by many governments around the world. Therefore, the market for production equipment used to manufacture PV cells is likely to grow substantially over the long term.

At Tokyo Electron, we have been conducting a wide range of basic research into issues that relate to PV cell production. In February 2008 the Company formed a joint venture with Sharp Corporation to specialize in development in this field, and announced plans to enter the market for PV cell production equipment. We are currently working to develop higher-performance plasma CVD system, which will be essential in order to manufacture thin-film silicon PV cells.

In February 2009, Tokyo Electron signed an exclusive representative agreement with Switzerland’s Oerlikon Solar for its end-to-end thin-film silicon PV solution in Asia and Oceania. Oerlikon Solar is the world’s leading manufacturer of production equipment for thin-film PV cells. Over 900,000 PV panels have been produced to date using Oerlikon Solar’s production equipment, and the company has earned a high reputation for its established technology. Oerlikon Solar is eager to leverage Tokyo Electron’s expertise in the market for production equipment, our strong technology and our large, established customer support network in the Asia and Oceania regions. Tokyo Electron will provide customer support for Oerlikon Solar’s thin-film silicon PV cell production lines as well as installation, set-up support and maintenance services. Together with Oerlikon Solar, we will be able to create the sort of production equipment and support services that the market demands, and to cultivate the next-generation technology that customers require. We expect tremendous growth potential in this field in the medium- to long-term.

Up to now, the cost of solar power generation has been higher than the cost generated by either thermal power or nuclear power, and the PV cell market has been supported by subsidies from each country. There is a strong need for technological developments which can help bring down the cost of solar power generation in order to help it achieve deeper market penetration. As a manufacturer and developer of PV cell production equipment, Tokyo Electron is making strenuous efforts to develop revolutionary new types of process technology that can improve the efficiency of power conversion from solar energy to electrical energy, and trying to enhance our superiority of mass-production capabilities of production equipment in an effort to reduce the cost of electric power generated using PV cells to a level low enough to make it a cost-competitive option. Once that happens, it will stimulate the shift to a less “carbon-dependent society.” In this way, Tokyo Electron is confidently taking on the important mission of leading the way in solar energy development, and striving to be a company that contributes value and technological prowess, both to the industry sectors we participate, and to society as a whole.