



# INNOVATIONS AHEAD

## ANNUAL REPORT 2003







# 40 TH ANNIVERSARY 1963 – 2003







# **TOKYO ELECTRON**

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Established in 1963, Tokyo Electron (TEL) is a world-leading supplier of semiconductor production equipment (SPE) and related services for the semiconductor industry. The Company develops, manufactures and markets a broad lineup of products, including oxidation/diffusion/LPCVD systems, single wafer CVD and PVD systems, coater/developers, spin-on dielectric (SOD) coaters, etch systems, cleaning systems, wafer probers, and others.

Tokyo Electron also uses its accumulated expertise in SPE to develop, manufacture and market coater/developers and etch/ash systems for the manufacture of Flat Panel Display (FPD). Most of the Company's semiconductor and FPD production systems hold the leading share in their respective markets.

Tokyo Electron also maintains a strong presence as a distributor, providing a wide array of semiconductor production systems, storage area network and Internet related products for broadband solutions, and electronic components in Japan from other leading suppliers. With a network spanning 12 countries on three continents, Tokyo Electron provides superior products and services to its customers, and superior returns to its shareholders.

#### **Disclaimer regarding Forward-looking Statements**

Matters discussed in this annual report, including forecasts of future business performance of Tokyo Electron, management strategies, beliefs and other statements are based on the Company's assumption in light of information that is currently available. These forward-looking statements involve known or unknown risks, uncertainties and other factors that could cause actual results to differ materially from those referred to in the forward-looking statements.

Factors that have a direct or indirect impact on Tokyo Electron's future performance include, but are not limited to:

- Economic circumstances in Japan and overseas, consumption trends, and large fluctuations in foreign exchange rates
- Changes in semiconductor and FPD markets
- Changes in the demand for products and services manufactured or offered by Tokyo Electron's customers, such as semiconductor manufacturers, FPD manufacturers and electronic makers
- Tokyo Electron's capabilities to continue to develop and provide products and services that respond to rapid technology innovation and changing customer needs in a timely manner

# Financial Highlights Tokyo Electron Limited and its Subsidiaries

Years ended March 31, 2003, 2002 and 2001

		Thousands of U.S. dollars (Note 1)		
	2003	2002	2001	2003
FOR THE YEAR				
Net sales	¥460,580	¥417,825	¥723,880	\$3,831,782
Operating income (loss)	1,119	(18,310)	121,086	9,308
Income (loss) before income taxes	(23,010)	(22,919)	99,132	(191,435)
Net income (loss)	(41,554)	(19,938)	62,012	(345,715)
Net income (loss) per share of common stock	(Note 2):			
Basic	¥ (238.87)	¥ (113.85)	¥ 353.76	\$ (1.98)
Diluted (Note 3)	-	_	344.75	_
Cash dividends per share of common stock	8.00	8.00	38.00	0.07
AT YEAR-END				
Total assets	¥524,901	¥556,915	¥729,511	\$4,366,899
Total shareholders' equity	252,904	307,579	333,281	2,104,029

Notes: 1. U.S. dollar amounts are translated from yen, for convenience only, at the rate of ¥120.20=\$1. Per share figures are stated in yen and dollars. 2. Net income per share is computed based on the weighted average number of shares of common stock outstanding during each fiscal year. 3. Dilution is not assumed for the years ended March 2003 and 2002.







## Message from the Chairman Dedicated to Further Innovations



Thanks to the support of our stakeholders, we are preparing to celebrate the 40th anniversary of Tokyo Electron (TEL)'s founding. Over the past 40 years, TEL has changed and grown along with the development of the electronics industry. Particularly in the latter part of the 1990s, our business expanded rapidly with globalization proceeding at a blazing pace driven by the so-called information technology (IT) revolution. By the time it hit its peak in 2000, the electronics market had grown to a substantial size.

Amid the emergence of new business models such as the foundry business and the massive globalization trend, TEL has achieved an extremely high growth rate while also developing an infrastructure of networks and human resources to support its expansion drive in global markets. It is also fair to say that, were it not for this rapid development of globalization, we would not have developed our current broad business scope and high competitiveness.

#### **Structural Reforms for Further Innovation**

Surging market growth as well as overestimated demand forecasts and expectations all led to the IT bubble burst and the current period of adjustment. Even in light of this, there has been no change in our conviction that the electronics industry and its core component, the semiconductor industry, will continue to advance in the medium- to long-term and still has high growth potential. However, looking at demand for digital consumer products, which are expected to replace personal computers (PCs) as the drivers of growth in semiconductor applications, it is difficult to see how they will be able to cover the drop in demand caused by the slump in the PC and communications devices market in the short term. Consequently, we view strategies premised on the continuation of the high growth rates of the past as being risky at this time. Based on this view, TEL has committed itself to the following two actions and intends to push forward with them aggressively.

- Discarding non-performing assets at the end of the fiscal year ended March 31, 2003 and undertaking substantial structural reform in this fiscal year, we are building quick and efficient but strong operations in all aspects of our business—research and development (R&D), manufacturing, sales, and service.
- For real success, the new generation of TEL employees will build our future by carrying out the above actions by crystallizing and redirecting their energy, under new top management with the intention to create a new company. TEL has a tradition that all employees accept generation change and work together to accomplish new goals. We will rely on this corporate culture to move us into the next phase of our business.

Following the general shareholders' meeting in June, Mr. Kiyoshi Sato assumes the position of President &CEO. He is an excellent choice to be our new leader. He brings extensive experience in Japan and overseas as well as energetic vigor to bear on our restructuring process and on our pursuit of maximum corporate value. As Chairman of the Board and representative director, I will be focusing my energies on determining basic business polices, the creation of mediumto long-term business strategies and supporting the new executive officers through activities of customer, industry and investor relations. Through these activities, I intend to press forward with the further development of TEL and achieving greater shareholder satisfaction. In this new role, I look forward to your continued support.

I will leave to Mr. Sato the reporting of TEL's performance in the past fiscal year, its perspectives for the current fiscal year, and a summary of the reforms being undertaken.

## Message from the President Accelerating the Business Process



In the fiscal year ended March 31, 2003, there were encouraging signs of a recovery in the semiconductor industry driven primarily by digital consumer products, such as DVD players and digital cameras. Nevertheless, there continued to be little growth in the markets for personal computers (PCs) and mobile phones, which are major users of semiconductors. In response, semiconductor manufacturers remained cautious, continuing their adjustments in capital investments that they began in 2001.

In dealing with these conditions, TEL strengthened its sales and support activities in Asia, including Japan, and worked to expand sales of new products. As a result of these efforts, consolidated net sales climbed 10.2%, to ¥460.6 billion. At the same time, TEL continued its efforts to cut fixed costs, such as personnel, outsourcing, and business activity expenses. Moreover, working together, the entire organization strove to boost overall operational efficiency, including implementing measures to relocate manufacturing and R&D bases. Reflecting these efforts, operating income improved substantially from the ¥18.3 billion loss of the previous fiscal year, to a positive ¥1.1 billion. Unfortunately, due to the booking of expenses for structural reforms, an explanation of which follows, and the reversal of deferred tax assets, TEL posted a loss of ¥41.6 billion for the fiscal year under review. Despite this performance, the Company has announced cash dividends of ¥8.0 per share.

#### **Pushing Through Structural Reforms**

TEL views the next one or two years as a period of preparation for our next major growth stage. Based on the following three points, we are pushing ahead with structural reforms.

• We will readjust our asset and cost bases to suit the current

business climate.

Kiyoshi Sato President & CEO

• Further growth of our business will require an expanded product lineup, for which we will have to focus more clearly on R&D activities, while also improving the efficiency of our programs.

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• To reinforce our competitive advantage in the market, we will build a structure that accelerates our business processes by enabling quick responses to the increasingly rapid changes in the business environment. We believe that speed will be the most important success factor in our semiconductor production equipment business.

#### Asset and Cost Reductions

One of the starting points for structural reforms is the reduction of assets and costs. In our development of global operations, which preceded the worldwide structural changes in the semiconductor industry, TEL successfully expanded its customer base while also increasing our share of individual customers' business. This achievement was reflected in sales growth. Examining these results, we can see that the contribution to semiconductor production equipment sales by our overseas segment, which was approximately 30% in the early 1990s, has risen to 70% today, reversing position with sales in Japan.

During the 1990s, capital investment in semiconductor production equipment grew at a high average rate of about 20%. In 2000, the year-over-year base growth rate ballooned to 70% more than the previous fiscal year under the influence of the IT bubble market. To cope with this growth, we proceeded to upgrade and expand our domestic manufacturing and overseas service bases. The following sharp 40% contraction in that market has had a significant impact on our current business structure. In the fiscal year ended March 2002, we cut fixed costs, such as labor cost of contract workers and employees by about ¥30.0 billion, followed by another about ¥10.0 billion in the fiscal year under review. However, it has not been enough to produce sufficient profit levels. Looking out into the future, the markets for volume applications of semiconductors, such as PCs and mobile phones, remained sluggish, and it will take time for digital consumer products to reach the same level of demand for chips. Consequently, it is difficult to see how the market could recover to an annual growth rate of around 20% in the short term. There are also several factors that point to lower growth rates. The number of semiconductor manufacturers is declining because of the ongoing consolidations and business alliances in the industry. In addition, with the introduction of 300mm wafer production lines and increased throughput has meant that the same volume of semiconductor manufacturing can be done with fewer machines.

In consideration of these conditions, we are pressing forward with reductions in personnel and inventories and the elimination of overlapping investment to convert to a more efficient business structure. Our overall goal is to establish a structure under which we can earn sufficient profits even given the current size of the market. At the end of the fiscal year under review, we booked restructuring-related expenses of ¥20.6 billion. During the current fiscal year, we plan to reduce personnel by approximately one thousand people worldwide. In addition, we will also reorganize our R&D functions and our production and field service bases.

In addition to these measures, we will undertake a fundamental revision of our R&D, production, sales, and service operations, working to cut costs at all levels. For specific measures, please see the reports by our Executive Officers (pages 10 to 15).

#### **Targeting Optimum Global Operations**

The previously mentioned asset and cost reductions do not imply that we are going to downsize our business. Furthermore, it does not mean that we are going to cease our globalization efforts. We will continue to pursue further globalization to achieve the optimum allocation of resources. As one example, we are reorganizing our overseas R&D bases, with the Albany NanoTech Project as their core, to acquire leadingedge technologies and strengthen our ability to bring products to market.

As part of our sales efforts, we established Tokyo Electron Shanghai in the city of the same name to boost our business development efforts in the People's Republic of China. Operations began in April 2002 with a staff of approximately 70 people. Due to rapid growth in its customer base, our support service structure expanded to approximately 150 people during the fiscal year. In the short-term, there is concern about some issues such as the influence of severe acute respiratory syndrome (SARS); but in the medium- to long-term, we anticipate growth in capital investment for semiconductor production equipment in China. To keep pace with this growth, we plan to expand our facilities and workforce as required to supply our customers with parts for semiconductor and flat panel display (FPD) production equipment, technical services, and training.

#### **Expanding our Product Lineup**

For further growth, we need to expand our product lineup, not only for the transistor formation processing market that has played such a prominent role in our history, but also in the wiring processing market. We see strong growth potential in this market because the degree of multi-layered wiring is advancing in conjunction with the increasingly high degree of sophistication and integration in devices. Despite the steady introduction of advanced new materials, such as low constant interconnect dielectric film and copper wiring, 65-nanometer design rules still pose a significant R&D challenge. In addressing this fundamental issue, we are examining the process integration possibilities, or determining how to combine different process units to meet the required specifications. We consider some of the essential factors in developing this market to be technologies and infrastructure to test and verify this integration, the ability to form business alliances with companies producing equipment that we do not, and the support of the customers that are actually designing these devices.

In addition to our dielectric etch system and SOD coater, we are focusing our efforts on developing film formation equipment and supercritical cleaning equipment. Using our products and the advanced technology evaluation and research facilities of our new Process Technology Center in Yamanashi Prefecture as the core, we plan to work with other equipment and material manufacturers to develop an environment that assists with our customers' process integration requirements.

# Further Innovations from Accelerating Business Processes

Our highest priority is on accelerating business processes. We are not seeking 20% or 30% improvements as in the past, we are looking to double and triple our pace.

Digital consumer products are the next drivers of growth in the semiconductor application market, following in the steps of PCs and mobile phones. However, because of the nature of consumer products, the product life cycle is becoming shorter. In response, semiconductor and semiconductor production equipment manufacturers must speed up all of their business processes. We expect that the turnover of digital consumer products will be two to three times faster than that of computer products. Because our operations will have to match that pace, we are considering a variety of measures to improve operational speed in each of our functions.

Effective April this year, we have replaced our former corporate senior staff (CSS) system with an executive officer system. Through its introduction, we have separated the roles of the board of directors and operating bodies more clearly than before. In addition to strengthening corporate governance, one of our goals in setting up this system is to speed up the decision-making process to enable faster determination and implementation of strategies. Executive officers are responsible for each of our business functions—R&D, manufacturing, sales, service, and administration—and have been assigned a broad scope of authority for daily business decisions. By delegating responsibility for daily operations to executive officers, I will be focusing my energies on the administration and management of the overall TEL Group. I expect that accelerating our business processes will generate new business innovations for the Group.

#### The Next Growth Stage

During my more than twenty years career, I have served in a variety of divisions and positions. I have worked in administration, the support services section of an overseas representative office, and the overseas product sales division in Japan. I have been the senior manager in charge of all products sold in the U.S. market and a business unit manager for our own products. My major short-term goal is to utilize my accumulated experience gained from working in and managing different sections of the value chain to establish a high profit structure through structural reforms and a quick response management organization. After building the business foundation for our next growth stage, I intend to turn my attention to promoting TEL's further development as a market leader based on new product launches and new business model development. Through these efforts, I will strive to expand shareholder value and satisfy the expectations of all stakeholders.

The torch has been passed to a new generation at TEL. At this juncture, I would ask that our shareholders support us as strongly as they have in the past.

June 2003



# Years of Innovations. . .

Import Trading Company with

Manufacturing Capabilities

Phase Two:

The history of Tokyo Electron has been the history of the development of the electronics industry. But through all the variations in its business environment, TEL has always pursued a different path than others. Flexibly adapting its business concepts, the Company has led the way in the semiconductor industry through technological innovation.

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External Environment:

Mainframe computers are the main

consumer for ICs, but consumer product

applications are expanding.

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**Phase Three:** Manufacturer of Original Products, Strengthened R&D Capabilities

Phase One: Foundation, Specialized Trading **Company with Technical Services** 

63 64 65 66 69 70

> External Environment: Initial development stage of the semiconductor and IC market

# <sup>19</sup>63<sup>-19</sup>71





on a new business concept of supplying Japanese customers with after sales technology services for the electronics products it marketed. In the beginning, in addition to the import of leading-edge technology products, such as IC testers, diffusion furnaces, and electronic components, TEL also exported domestically manufactured VCRs, automobile radios, calculators, and other electronics products. Positioned as a specialty trading company with technological capabilities, the Company proceeded to build a busi-

TEL was established during the dawn of

ness foundation based on achieving a high degree of customer satisfaction through quick and thorough technologi cal services.

Pictures: Founders: Mr. Kubo and Mr. Kodaka, IC tester, Electric Calculators

# <sup>19</sup>72<sup>-19</sup>81







Although the main application for ICs was mainframe computers, applications were steadily expanding for such products as home appliances, calculators, and office equipment. In response to the diversification of specifications for semiconductor production equipment, TEL successively proceeded to develop and manufacture equipment domestically. The Company's import business for electronic components, CAD/CAE systems, board test systems and other products were also prospering. On the other hand, TEL exited from the calculator and automobile radio markets, where excessive competition was driving down profitability. During this period, the Company established a unique position for itself in the market as an import trading company with manufacturing capabilities.

Pictures: High-pressure oxidation system: UHO-2506, Wafer prober production line, Computer peripheral

External Environment: Applications expand to offices-PCs, workstations, and others.

# <sup>19</sup>**81** <sup>-19</sup>**91**







During this phase, Japan's semiconductor manufacturers began to emerge as market leaders through their production of DRAMs. Process technology of semiconductor production had become complicated. TEL expanded its product line up of semiconductor production equipment by forming joint ventures with leading overseas equipment manufacturers. As the technological requirements of semiconductor manufacturers became increasingly sophisticated, the Company established its own R&D facilities, beginning to collaborate with customers in product development, pursuing higher value-added content in its own products. By further reinforcing its manufacturing and support services functions, TEL set the stage for the development of the semiconductor production equipment business that forms the core of its current business portfolio.

Pictures: Central Research Laboratory, Coater/Developer: Clean Track Mark II, Etching System: TE-480



# <sup>19</sup>**92**<sup>-20</sup>**02**







The semiconductor industry entered a rapid growth stage as IC applications shifted to PCs, mobile phones, and other products for the consumer market. Logic chips instead of memory chips became the main technological driver in the industry. The foundry business in Taiwan and semiconductor production in Korea and the United States expanded sharply. During this period, TEL made strategic decision to establish bases around the world to enable the Company sell directly to local customers and provide support services. In Japan, the Company built the advanced Process Technology Center, seeking to strengthen its overall process development capabilities. At this point, TEL had established a dominant position in the global market as a leading manufacturer of semiconductor production equipment.

Pictures: Tokyo Electron America (Austin Texas), Opening Ceremony for Tokyo Electron America, Inc., New Process Technology Center

## **Products Derived from Innovation**



Semiconductor & FPD Production Equipment

### **Semiconductor Production Equipment**

Tokyo Electron develops and manufactures a broad range of superior semiconductor production equipment, and complements its original lineup by distributing high-value-added products from other suppliers.

#### •Original Products

Coater/Developer Spin-on Dielectric Coater Plasma Etch System Thermal Processing System Single Wafer Rapid Thermal Furnace Single Wafer CVD System Plasma Process System PVD System Cleaning System Scrubber System Fully Automatic Wafer Prober Optical Digital Profilometry System

•Distributed Products Cu ECMD System (NuTool Inc.) FIB System (FEI Company) Film Metrology Tool (Rudolph Technologies, Inc.) Yield Management Software (Yield Dynamics, Inc.) X- ray Diffraction Measurement Equipment (Bede Scientific Instruments Ltd.)



Coater/Developer CLEAN TRACK ACT<sup>®</sup>12



Thermal Processing System TELFORMULA™



Carrierless BEOL Cleaning System PR300Z



Plasma Etch System Telius™



Single Wafer CVD System Trias™



Fully Automatic Wafer Prober P-12XL

## Flat Panel Display (FPD) Production Equipment\*

Leveraging the technology and expertise accumulated from its semiconductor production equipment business, Tokyo Electron has created a strong lineup of leading-edge FPD production equipment.

•FPD Coater/Developer •FPD Plasma Etch/Ash System



FPD Coater/Developer CL1200



FPD Plasma Etch/Ash System SE1200

\*Formerly called LCD Production Equipment



**Computer Network** 

### **Computer Network**

In order to fulfill its goal of providing solutions tailored to user needs, Tokyo Electron distributes storage area network and Internet related products for broadband solutions to offer comprehensive system solutions.

- Internet solutions
  - Network security solutions
  - •SAN solutions
  - Video Network solutions
  - Aerospace products



Brocade Communications Systems, Inc. Fibre Channel Integrated Fabric Switch



Core Router



Extreme Networks Inc. **Gigabit Ethernet Switch** 

#### Computer/Networks

- •Advanced Digital Information Corporation •Brocade Communications Systems, Inc. •Emulex Corporation •Extreme Networks, Inc. •F5 Networks, Inc. •Hewlett-Packard Japan, Ltd. •Hitachi, Ltd. •iReady Corporation •nCipher Corporation Ltd.
- •NeoScale Systems, Inc. •NetScreen Technologies, Inc. •Nishan Systems, Inc.
- •VERITAS Software Corporation

#### Aerospace Products

- •BAE SYSTEMS •Conax Florida Corp.
- •Cycomm International Inc.
- •Goodrich Corp.
- •H. Koch & Sons Corp.
- •Irvin Aerospace Inc.
- •ITT Aerospace Controls Corp.
- Pacific Cast Technologies
- •Z Microsystems Inc.



## **Electronic Components**

Tokyo Electron selects and offers the world's best products from leading suppliers. With a full product lineup and flexible technical support, the Company provides total solutions to meet diversified user needs. Operations are handled by subsidiary Tokyo Electron Device Ltd.

#### Semiconductor products

- Board computer products
- •Software
- Other electronic components







Pixelworks, Inc.

- •Advanced Micro Devices, Inc •Agilent Technologies, Inc. •Cavium Networks, Inc. Conexant Systems, Inc. •Cosel Co., Ltd. •Digital Electronics Corp. •Emuzed, Inc. •Fujifilm Microdevices Co., Ltd.
- •Fujitsu Ltd.
- •Fujitsu Display Technologies Corp.
- •Fujitsu Media Devices Ltd.
- •Fujitsu Quantum Devices Ltd.
- •Integrated Device Technology, Inc.
- •Intel Corp.
- •Infineon Technologies AG

- •Intersil Corp. •Intoto Inc. •Kopin Corp.
- Legerity, Inc.
- •Linear Technology Corp.
- Metrowerks, Inc.
- •Microsoft Corp.
- •3M
- •Motorola, Inc. •ON Semiconductor
- •Phoenix Technologies Ltd.
- Pixelworks, Inc.
- Portwell, Inc.
- •Ramtron International Corp.
- •Safe Net, Inc.

- •Shinko Electric Industries Co., Ltd.
- •SiberCore Technologies Inc.
- •Silicon Wave, Inc.
- Texas Instruments Inc.
- •Tokyo Electron Device Ltd.
- •Tundra Semiconductor Corp.
- •Valence Semiconductor, Inc.
- •VenturCom, Inc.
- •WESTTEK, L. L. C.
- •Winchester Electronics
- •Woodhead Industries, Inc. •Xicor. Inc.
- •Xilinx, Inc.
- •Zarlink Semiconductor Inc.
- •ZettaCom, Inc.

In addition to the sales of our three divisions, others sales contributed 0.3 percent of net sales. Product names and company names are trademarks or registered trademarks of their respective holders.



•Procket Networks, Inc. •Silicon Graphics, Inc. Sony Corporation •TimesTen Performance Software, Inc.

## **TEL People to Create Innovations**

## Market-Driven Technology Development



Ryuichi Komatsubara Executive Officer Senior Vice President, Technology & Marketing

#### Tokyo Electron Product Strengths

The strength of our products and technologies lies in our commitment to our customers beginning with the product development stage. Semiconductor manufacturers aim to differentiate their products through differences in device design and in semiconductor manufacturing processes. To assist with this goal, we work with customers to develop manufacturing technologies, giving top priority to supplying our customers with equipment that closely suits their needs. Our customers have come to recog-

nize the high performance, repeatability, and reliability of our equipment, and as a result, we hold the top market share globally for almost every piece of equipment we market.

Volume manufacturing using 90 nanometer design rules has begun in 2003. These new specifications require even greater control of heat and time in the lithography process than in the past. In response to these needs, we have given the new coater/developer Lithius<sup>™</sup> add functions to improve process stability, for which volume manufacturing and delivery is scheduled for the start of 2004. We have embedded measurement devices and a variety of sensors into the equipment to provide feedback and feedforward functions to control processes. In addition, the high productivity for improved exposure equipment throughput is another important sales point. We are confident of maintaining our strong position in the coater/developer market for next-generation devices.

In thin-film formation, TELFORMULA<sup>™</sup>, a new type of thermal processing system that we began fullfledged sales of in the fiscal year ended March 2003, also offers many strong advantages. Featuring a hotwall thermal furnace and a quick turnaround time due to the ability to process 25-wafer batches, has resulted in driving a new market for mini-batch furnaces. The system can provide more precise boundary control because it can make sequential runs incorporating different processing specifications. Our customers have rated its capabilities very highly.

Another unique thin-film formation system Trias<sup>™</sup> SPA accomplishes high-quality nitridation and oxidation processes. It was developed in cooperation with Tohoku University with the support of the Ministry of Economy, Trade and Industry (formerly MITI). For 90 nanometer or less processes, damage to the wafer from plasma cannot be ignored. However, the highly unique antenna system embedded in this equipment enables the production of microwave plasma with extremely low electron energy of 3eV or less. Based on the high-density radicals that can be created using this microwave plasma, we plan to supply process solutions not only for gate nitridation process but also for oxide film formation, annealing, and a host of other processes. We anticipate that Trias<sup>™</sup> SPA will become one of the core products of our thin-film formation business portfolio.

# Requirements for Next-Generation Processes and Future Challenges

With every new generation of IC, semiconductor production equipment makers have boosted the value-added content of hardware, software, process recipes, and process integration. Looking at the needs of our customers over the past few years, the two main trends have been process development based on actual device designs and intelligent equipment with precision measurement devices embedded in the equipment or in the manufacturing line. In the sense that these needs require us to deepen the comprehensive commitment to our customers, which we have pursued since we began in the semiconductor production equipment business, I see the former trend as further broadening the scope of our involvement. With the latter trend, we have been developing these functions in our product lines for several years using business alliances, mergers and acquisitions, and other methods. As with Lithius<sup>™</sup>, the products we will be launching in future will have intelligent functions.

The surge in R&D costs of companies as chip shrinkage progresses is of some concern to all. Because





Albany NanoTech facility including 300mm and 200mm wafer R&D fab

they offer one method of alleviating these costs, projects and consortiums featuring collaboration by industry, government, and academia are growing in importance. In Japan, we are actively participating in the MIRAI and the HALCA projects, supplying equipment and personnel. Outside Japan, we have various research activities linked with International SEMATECH and IMEC. Recently, we decided to participate in the Albany NanoTech Project, an R&D program that makes use of the facilities of the University at Albany, State University of New York. This project, which was supported by the government of Japan, was praised highly as an example of how basic technology developed at a university can be combined with the application technologies of the private sector to yield excellent results. At the Second Conference on Promoting Industry-Academia-Government Collaboration, held on June 8, 2003 in Kyoto, Tokyo Electron received the Prime Minister's Award for its development of a practical application of Trias<sup>™</sup> SPA.

We participate in these consortium activities not only to pursue innovative technologies that can achieve breakthroughs in next-generation processes, but also to achieve progress in efficiency and speed of our R&D activities and in the use of integration infrastructures.

# Improving the R&D Process and Achieving Greater Efficiency

Amid the growth in semiconductor applications for consumer products in the form of system on chip (SOC) devices, the life-cycle of products is getting extremely short. Because this situation also translates into a short development cycle for the device itself, and in turn, the development cycle of the production equipment, it has become a major industry issue. From the point of view of promoting process development, the establishment of the previously mentioned integration environment is vital in addressing the problem of shorter life-cycles. On the other hand, the development of the actual equipment is obviously also an issue. As a result of this dichotomy, we have been pursing the development of leading-edge technology that is not associated with development of business unit products through an independent R&D unit called Corporate Development. We are planning to relocate this R&D unit closer to the site of the development of actual products. In other words, we want the R&D unit to be able to contribute to our manufacturing units that are producing individual products. Moreover, we are going to reorganize our R&D structure into a horizontally linked organization built around such core technologies as thermal, plasma, vacuum, atmospheric pressure system, and process application. This structure replaces the previous vertical integration by technology system. Through these steps, we plan to achieve rapid sharing of a broad range of technological information, further speeding up our R&D process and improving its efficiency. These, I believe, are our top priorities for the future.



Prime Minister's Award for Trias<sup>™</sup> SPA

## Accelerated Manufacturing for Speed Up and Cost Reduction



Hisashi Shirahada Executive Officer, VP & General Manager, Manufacturing

Tokyo Electron's manufacturing strength lies in its ability to adapt our equipment flexibly to a diverse range of requirements of customers. This capability keeps customers satisfied, raises their confidence in TEL and is a significant driver of corporate growth. Nevertheless, amid the current trend in applications of semiconductors to consumer appliances, demand for cost reductions in semiconductor production equipment from customers is increasing and the business cycle is getting shorter. We believe this trend will continue into the future. Therefore, we are pro-

ceeding to strengthen our manufacturing division by increasing speed and reducing costs.

#### Improving Operational Speed

To further improve our operations, we are aiming to reduce lead times from order to delivery to two months for new products and three months for existing products. We are also working to trim the startup time from delivery to completion of installation to two weeks. The steps being taken to achieve those targets are improving the efficiency of capital and human resources, reforming manufacturing processes and standardizing equipment.

Specific measures to improve the efficiency of capital and human resources include speeding up processing and boosting efficiency by introducing a shift work system and operating our logistics system around the clock. To reform our manufacturing processes, we are targeting the shortening of the manufacturing time by using information technology (IT) tools to reorganize processes to include additional parallel processing. In our standardization efforts, we are working to avoid duplicating previous design work and shorten the manufacturing time for design and custom-order components by creating and making the best use of an open database containing all our past design data. Furthermore, we are designing standardization into the tools from the product concept stage for our new thermal processing equipment, coater/developers and other equipment. We are confident that these actions will contribute fundamental benefits to our operations.

Our cost reduction goals are a 30% cut in material and fabrication costs over a three-year period. Among the measures being taken to attain those results are a review of our procurement and design systems and reform of our logistics system. To improve our procurement system, we are increasing purchases of materials from China and Southeast Asian countries and cooperating with suppliers in examining methods to reduce costs of components and parts. To upgrade the design system, we are applying manufacturing management methodsvalue analysis (VA) and value engineering (VE)-to achieve results. The VA system enables us to cut costs by changing parts without affecting the performance of the product. And with new products in particular, we are pursing cost reductions by applying VE methods that optimize the balance between performance and cost beginning with the design stage. To raise the efficiency of our logistics system, we are actively developing a shared logistics system to replace the individual systems of business units.

#### Strength as a Manufacturer

In tandem with these measures, we are implementing the IT tool-based Total Cost Down Project at plants of Tokyo Electron AT and Tokyo Electron Kyushu. This system was first introduced with great success at Tokyo Electron Tohoku. In addition, to upgrade the design and manufacturing skills of individual engineers and the management capabilities of our project managers, we are reviewing our training and education system and our personnel performance evaluation system. Through these measures, we are committed to further boosting our strength as a manufacturer by ramping up the benefits of our improved speed and cost reduction actions.

## Marketing Expertise as a Reliable Partner



Mitsuru Onozato Executive Officer, Senior Vice President, Sales

Founded as a trading company, Tokyo Electron has developed its business by supplying customers in the electronics industry with required functions packaged with engineering and support services. In the semiconductor production equipment business, suppliers must instantly recognize the process needs of each customer and incorporate them into their products. We have achieved our strong position in the market based on a sales organization offering strong technical knowledge of the products and manufacturing processes. Our customer satisfaction

policy is reflected in our market share, which is one of the largest worldwide, but it was also made evident during the fiscal year under review by the awards received from leading semiconductor manufacturers. To take one example, we have received Intel's Supplier Continuous Quality Improvement Award for three years running—a most encouraging award for the sales group manning the front lines of our relationships with customers.

#### **Reinforcement of Marketing Power**

As the costs of R&D and manufacturing steadily increase in the semiconductor industry, the number of business alliances among our customers is growing. As a result of these alliances, the loss of a business opportunity with one customer could possibly lead to the loss of another customer's business. To avoid these situations, our first priority is to reinforce the competitiveness of our products. To that end, we believe that the Company must not only carry out joint product development with customers—the key to business alliances-but also boost the marketing power of its sales force. For example, from the point of view of Tokyo Electron's role as a multiproduct line vendor, individual salespeople must be knowledgeable about more than just one product. We believe that taking steps to instill in our salespeople a high degree of knowledge of our equipment and their related manufacturing processes contributes to a deepening of the relationship of trust with our customers.

#### **Cost Reduction Challenges**

We also recognize that the Company cannot achieve its overall goals for cost reduction, improved speed and improved financial performance without the cooperation and assistance of the sales force. Therefore, we are exerting efforts to reduce costs based on a small–but–efficient sales force and shortened equipment installation time, and are proactively working with other divisions to cut inventories.

# China Market Promising in the Medium- to Long-Term

Among regional issues, we are strengthening our operations in China, which is a new and steadily expanding manufacturing base for semiconductor devices. Currently, the market is not demonstrating explosive growth due to regulations on advanced technology and various other factors. However, in the near future, we expect that it will expand substantially because of the low cost of infrastructure and labor. During the current fiscal year, we are in the process of constructing a new building in the Shanghai region to be used for demonstrations and stocking parts. While avoiding the many risks in the market, we plan to pursue sales activities as we do in other markets based on our customer first principle.



Tokyo Electron (Shanghai) Limited New Headquarter Building

## **Global Support of Process Application Engineering**



Jinzaburo Sakamoto Executive Officer, VP & General Manager, Field Engineering

In the semiconductor production equipment business, customers expect high-process performance equipment and highquality support services to be packaged together. By establishing a network of more than 40 bases in 12 countries around the globe to provide these highquality support services, Tokyo Electron has built a strong relationship of trust with its customers through its pursuit of customer satisfaction.

#### Improvement of Support Services Capability

In recent years, our customers at semiconductor plants have raised the bar on their cost reduction, efficiency, and uptime goals; and consequently, they are demanding even higher levels of support from equipment suppliers. In particular, to provide support services for equipment used to manufacture ultra-miniaturized devices, it has become essential to have the capability for and knowledge of process application, not just knowledge of the hardware. For that reason, we are emphasizing process education to upgrade the skills of our engineers. Moreover, through the Internet (e-Business) we are supplying customers with real-time technical information resources. Specifically, our e-Support services provide information on equipment problems and their solutions, as well as on improvements and modifications. To enable customers to immediately deal with problems by themselves, we have added an e-Troubleshooting function into our equipment, and plan to implement training of customers for this function.

#### Service as a Profit Center

In addition to earning a profit on our hardware and achieving cost reduction, we are also establishing a new business model that converts our service department into a profit center. For several years, we have offered optional services for an additional charge to further enhance the level of customer satisfaction with our equipment under the name of TEL Service Advantage (TSA). At a customer's request, we provide support services after business hours, emergency on-site support and quick start-up services. In addition to being highly rated by our customers, TSA contributes to higher operating rates and productivity. In the future, we will push forward with the establishment of a business model based on the active discovery of and response to customer support service needs that is positive for both TEL and our customers. This model will create income for Tokyo Electron by supplying value to customers in the form of greater customer satisfaction and value-added content.

#### **Contribution to Operational Improvement**

From the standpoint of cost reduction, we will pursue multi-product support services where one person can serve as a field engineer for multiple types of equipment. We will also seek cost reductions by strengthening our business agreements with partner companies, working to achieve more effective use of our engineers, and improving the efficiency of our logistics systems. We are also taking steps to reduce and optimize our parts inventories on a global level introducing a stricter management structure in coordination with our sales group and plants.



## Asset Management to Generate Extra Cash Flow



Mamoru Hara Executive Officer, Executive Vice President, Administration

In the semiconductor production equipment business, it takes several months to install and adjust equipment after it is delivered to the customer. Taking into account the payment terms of the customer, recovery of expenses can take some time. This problem is compounded by the fact that we pay suppliers on much shorter terms in consideration of the guarantee they provide on merchandise. As a result, our working capital tends to be negative when business is in an upturn and positive during periods of adjustment. Indeed, for the Company to continue to

build corporate value, it is essential to improve cash flow by creating profits and reducing working capital.

#### Improving the Balance Sheet and Cash Flow

To reinforce our balance sheet and our cash flow, we are aiming to shorten the collection period for trade notes and accounts receivable and the inventory turnover ratio by 30% within two years. To achieve these goals, the entire company is working to shorten start-up times and reduce trade notes, accounts receivable and inventory. As indicated by the key word "speed up" used by Executive Officer, Mr. Shirahada in his explanation, we are shortening the installation time through integrated reform of design, manufacturing, and service. To reduce trade notes and accounts receivable, the sales and service departments are partnering with the administration department to decrease receivables for accounts where customers have not yet completed the inspection and acceptance process. These efforts are in addition to shortening start-up times. To decrease our parts and components inventories, we plan to increase the efficiency of our global logistics system. This is being accomplished through integration and other measures to enable us to decrease the stock of parts kept at customers' semiconductor plants for support services. Moreover, we will strictly control inventories that were lent to customers for evaluation with target amounts in each business unit.

Based on these measures, we expect to achieve an improvement in cash flow of several tens of billions of yen, as well as gaining benefits from reducing our interest-bearing debt and interest burden. In addition to improving our profit structure through the reduction of fixed expenses, we intend to strengthen our balance sheet and cash flow by ramping up these efforts over the long term. The ultimate goal of these efforts is to continue to build corporate value.



## Health, Environment and Safety Commitment and Priorities

We believe that, as a business enterprise, Tokyo Electron has an important mission to fully consider environmental protection in its business activities, giving top priority to people's health and safety.

## **Activities to Reduce Environmental Impact**

#### **LCA** Initiative

We use Life Cycle Assessment (LCA) to quantitative assess a product's environmental impact during the course of its life at each stage: from raw materials through manufacture, transport, use, and disposal. For equipment with particularly significant impact on the environment, we analyze energy consumption into components, such as ultrapure water, electricity, and gas emissions. This analysis is applied to improving equipment or developing new products.

#### **Green Procurement**

We source almost all our materials and parts for the manufacturing of semiconductor manufacturing equipment from suppliers. To effectively use "Green procurement" to source materials in a manner that reduces environmental impact, therefore, it is essential to have the cooperation of suppliers. To promote their cooperation, the TEL Group issues a Green Procurement Guideline, distributes it to suppliers throughout Japan, and holds green-procurement seminars. We are actively working to introduce trainer education programs to help educate suppliers about green procurement as well as produce other educational systems.

#### **Chemical Substance Management**

Semiconductor manufacturing processes utilize a variety of chemical substances that could cause environmental pollution. To prevent any environmental pollution resulting from the use of these chemical substances, the TEL Group manages them strictly, including introduction, application and disposal, taking the environment and employee safety in account. Before any of our operations introduce new chemicals, they do appropriate research, determine standards for proper handling, and make efforts to substitute or reduce the use of harmful substances.

#### **Environmental Accounting**

Environmental accounting is a tool for ascertaining the cost and effect of a company's environmental activities for use within the company's routine operations. As a Group, we have been using environmental accounting since the fiscal year ended March 2001. The results for the fiscal year under review will be available in the Environmental Report 2003, which will be published in fall 2003.

### **Safety Activities**

We give top priority to the safety and health of our employees, customers, and everyone involved with the TEL Group's business. This commitment is evident in the TEL Group Credo and Principles on Environment, Safety and Health, which were first set out in 1998. These guidelines clearly state that employees are responsible for being constantly aware of safety and health considerations in each and every business activity. To ensure thorough compliance with these guidelines, the TEL Group has developed a safety training program. All employees—office and plant workers alike—including those employees of supplier companies are required to take courses in basic safety measures. We require employees with greater responsibility or more dangerous jobs to take higher level courses.

## Intellectual Property Report Efficiently Developed to Promote Product Competitiveness

Tokyo Electron puts a great deal of effort into developing technologies to bolster the competitiveness of its products. Without protection for its intellectual property rights, however, the Company would not be able to lay claim to those independently developed technologies and products as proprietary assets. It is precisely the integration of our intellectual property strategy with our technology and product strategies that allows the Company to realize maximum benefit from its development efforts. Accordingly, the Company has positioned intellectual property strategy as one of its important strategies. To enable us to effectively use superior technologies of other companies and bring our products to market quickly, we place a high priority on license-in activities.

#### **Efficient Acquisition of Intellectual Property Rights**

In view of the need to legally protect our business on a global level, the Company is strengthening its acquisition of intellectual property rights outside Japan. In addition to the traditional method of applying directly through the Paris Convention route, we are also utilizing the Patent Cooperation Treaty (PCT) route, to apply for patents in various countries, including the United States, Republic of Korea, and People's Republic of China. Because the PCT route is an effective method for assessing prime technologies and acquiring patents efficiently and at reduced costs, we are increasing the number of patent applications made utilizing this route.

The Company promotes efficient activities of its intellectual property. Looking at surveys by the Japanese Patent Office of the registered rate for patent applications or the proportion of holding elite patents that narrow the scope of other companies patent applications or invalidate such applications, the full extent of the effectiveness of our intellectual property management activities and the high quality of our intellectual property is evident. Using these rakings as one of the standards by which to judge our efforts, we will continue to fortify our management activities to protect our intellectual property, reinforce the competitiveness of our products, and support business expansion.

#### Intellectual Property by Major Country (at March 31, 2003)

	Japan	U.S.A.	Korea	Taiwan	China G	ermany	France	Others	Total
Patent	2234	1573	651	748	1	83	46	241	5577
Utility Model	14	0	2	38	0	0	0	0	54
Design	134	60	75	53	7	27	36	153	545
Trademark	192	18	26	40	12	13	11	185	497
Total	2574	1651	754	879	20	123	93	579	6673

#### **Changes of the Number of Patent Applications**



### Rankings of Tokyo Electron's Intellectual Property

- 1. Elite patent ranking in the United States: 1996-2000 Elite patent ratio: 28.6% (No. 1 worldwide)
- 2. Patent approval rate in Japan: 73.9% (10th in Japan)
- U.S. patents approved: 216 (28th among Japanese companies)

### Board of Directors, Statutory Auditors and Executive Officers (As of June 20, 2003)



Kiyoshi Sato

Mamoru Hara

Tetsuro Higashi

#### **Executive Officers**

Kiyoshi Sato sident & CEO

Mamoru Hara Executive Vice President, Administration

Mitsuru Onozato Senior Vice President, Sales

Ryuichi Komatsubara Senior Vice President, Technology & Marketing

Jinzaburo Sakamoto VP & General Manager, Field Engineering President, Tokyo Electron FE Ltd.

Hisashi Shirahada VP & General Manager, Manufacturing

#### **Board of Directors**

Tetsuro Higashi Chairman of the Board

Tetsuo Tsuneishi<sup>2</sup> Vice Chairman of the Board

Kiyoshi Sato President & CEO

Mamoru Hara<sup>12</sup> Executive Vice President

Takeo Tanaka<sup>1</sup> Chairman Tokyo Electron Kyushu Limited

#### Hirosuke Ishibashi<sup>23</sup>

Yukio Sunahara Chairman Tokyo Broadcasting Systems, Inc.

Toshiyuki Kondo<sup>1</sup> President SRL, Inc.

Notes: 1 Member of Compensation Committee 2 Member of Nomination Committee 3 Chief Business Ethics Director

Noriyuki Kuga VP & General Manager, HR/Finance/Order Process/Business Support Center and Director, Order Process Dept. & Business Support Center

Yoshiteru Harada VP & General Manager, General Affairs/Accounting/Administration, FuchuTechnology Center & Osaka Branch Office and Director, General Affairs Dept.

Takao Kodama VP & General Manager, IT Center

Hikaru Ito VP & General Manager, Clean Track BU

Takashi Ito VP & General Manager, Etch Systems BU

Yasuyuki Kuriki VP & General Manager, Thermal Processing Systems BU and President, Tokyo Electron Tohoku Ltd.

Kenji Washino VP & General Manager, Cleaning Systems BU and Director, Cleaning Systems Dept.

Hiroshi Takenaka VP & General Manager, Single Wafer Deposition BU and Director, Single Wafer Deposition Dept.

Yoshinori Inoue VP & General Manager, Test Systems BU and Executive Officer, Tokyo Electron AT Ltd.

Hiroshi Tomita VP & General Manager, FPD Systems BU

#### **Statutory Auditors**

Taketoshi Itoyama Tokyo Electron Limited

Takanori Suzuki Tokyo Electron Limited

Fujio Kimura Tokyo Electron Limited

Hiroshi Maeda Mitsui, Yasuda, Wani & Maeda

Katsuyuki Amano VP & General Manager, Computer Network BU and Director, Computer Network Dept.

Keiichi Furugaki VP & General Manager, Business Development & Account Management, Korea and President, Tokyo Electron Korea Ltd.

Chiaki Yamaguchi VP & General Manager, Business Development & Account Management, Asia

Takahiro Komatsu VP & General Manager, Business Development & Account Management, Japan and Branch Manager, Osaka Branch/Kyushu Branch

Kiyoshi Sunohara VP & General Manager, Business Development & Account Management, North America & Europe

Yoichi Ishikawa VP & General Manager, Marketing

Yoshifumi Tahara VP & General Manager, Technology & Development-Vacuum and Senior Vice President, Tokyo Electron AT Ltd.

Masami Akimoto

VP & General Manager, Technology & Development-Atmospheric Pressure and Executive Officer, Tokyo Electron Kyushu Ltd.

**Financial Section** 

## Management's Discussion and Analysis

## Sales and Income

#### **Business Environment**

In the fiscal year ended March 31, 2003, the global economy showed signs of recovery at one point, but was derailed again as accounting scandals at major U.S. firms, the downturn in stock markets worldwide, and the build up to the war in Iraq spun the economies of the United States and Europe sharply into decline. Conversely, in Asia, China's economy continued to expand strongly, and the economies of South Korea and Taiwan also showed mild upturns. Meanwhile, conditions in Japan's economy took another turn for the worse under pressure from the unrelenting cooling off of private-sector capital investment and personal consumption.

In the electronics market, there was a recovery in demand for some digital consumer products, such as DVD players and digital cameras, but the mobile phone, PC, and communications devices markets remained at low ebb. Against this backdrop in semiconductor-related markets, postponements or cutbacks in capital investment started to increase from last summer, resulting in a persistently difficult business environment. Moreover, the trend toward consolidation among semiconductor manufacturers has accelerated.

#### Sales

Amid this severe business climate, consolidated net sales for the fiscal year ended March 31, 2003 increased 10.2 percent from the prior fiscal year to ¥460.6 billion. Sales of the Company's core Semiconductor Production Equipment (SPE) division grew 12.0 percent, to ¥364.7 billion, supported by favorable growth in sales of FPD manufacturing equipment amid the slump in the semiconductor industry. The sales growth of the Computer Network and Electronic Components divisions also contributed to overall sales expansion.

Geographically, domestic sales rose 2.1 percent to ¥190.5 billion and overseas sales expanded 16.8 percent to ¥270.1 billion. As a result, the contribution of overseas sales to net sales increased to 58.6 percent from 55.4 percent in the previous fiscal year.

Consolidated orders received for the fiscal year under review totaled ¥458.5 billion, jumping 55.3 percent from the previous fiscal year. The order backlogs at the fiscal year-end edged down 1.3 percent to ¥150.7 billion.

#### **Performance by Division**

#### •Semiconductor Production Equipment

Semiconductor manufacturers increased their desire for capital investment at the beginning of 2002 because the view

		Thousands of					
		U.S. dollars					
	2003	3	2002	2	2001	1	2003
Net sales	¥460,580 (	(100.0)	¥417,825	(100.0)	¥723,880	(100.0)	\$3,831,782
Cost of sales	326,540	(70.9)	302,270	(72.3)	458,902	(63.4)	2,716,637
Gross profit	134,040	(29.1)	115,555	(27.7)	264,978	(36.6)	1,115,145
SG&A expenses	132,921	(28.9)	133,865	(32.0)	143,892	(19.9)	1,105,837
Operating income (loss)	1,119	(0.2)	(18,310)	-	121,086	(16.7)	9,308
Other income (expenses)	(24,129)	-	(4,609)	-	(21,954)	-	(200,743)
Income (loss) before income taxes	(23,010)	-	(22,919)	-	99,132	(13.7)	(191,435)
Provision for income taxes	18,532	(4.0)	(2,990)	-	37,099	(5.1)	154,180
Minority interest	12	(0.0)	8	(0.0)	21	(0.0)	100
Net income (loss)	(41,554)	-	(19,938)	-	¥ 62,012	(8.6)	(345,715)

that inventories were low for some products was spreading throughout the industry. However, semiconductor demand did not continue to rise, resulting in excessive inventories building up for many products, sidetracking a genuine recovery in the industry. During the second half, these conditions produced a mixed response among semiconductor manufacturers, with some companies postponing capital investments while others continued to invest.

Consolidated orders of the SPE division for the fiscal year ended March 31, 2003, amounted to ¥363.4 billion, recovering 75.4 percent from the previous fiscal year's performance, which was posted amid the worst conditions ever recorded in the semiconductor industry. Consolidated sales climbed 12.0 percent to ¥364.7 billion. Contribution to consolidated sales also rose slightly, increasing to 79.2 percent from 78.0 percent.

Sales of flat panel display (FPD) production equipment, which are also included in this division, expanded significantly compared to last fiscal year. The supply and demand gap for FPDs contracted during the fiscal year thanks to the progressive replacement of CRT monitors in PCs with LCD monitors and the growth of the new LCD television set market. Encouraged by these trends, FPD manufacturers in South Korea and in Taiwan increased their capital investments.

Performance by geographical region was mixed. Sales in Korea, where capital investment in semiconductor memory and FPD increased, rose 147.0 percent, to ¥57.3 billion. Sales in the People's Republic of China, where full-fledged capital investment in semiconductor manufacture has gotten under way, surged 168.4 percent, to ¥20.1 billion. Sales in Taiwan also rose, mainly due to increased purchases of FPD production equipment. On the other hand, sales in the U.S. market fell 21.6 percent, to ¥74.3 billion under the impact of a reduction in capital investments, particularly for logic devices, by major customers.

Sales also varied considerably by product during the fiscal year. Sales of thermal processing and thin-film formation systems increased thanks to the contributions of such new products as TELFORMULA™ and Trias™SPA. In addition, the division's market share of oxidation etch systems and wafer probers expanded as did sales. Sales of coaters/developers, however, declined slightly because of the restraint in capital investment in lithography equipment. In terms of wafer size, capital investment in 300mm wafer manufacturing lines continued to rise among semiconductor manufacturers in the United States and Korea as well as by the foundry manufacturers in Taiwan. In total, the sales portion of 300mm equipment is approaching 50 percent of our SPE sales. Nevertheless, 200mm-manufacturing lines remain the most appropriate for many ICs used in the small-lot-wide-variety production of digital consumer products. Consequently, the division expects that demand for 200mm wafer manufacturing equipment will continue to underpin the market for the time being.







Sales by third-party products imported into Japan are included in Japan Sales

#### Computer Network

Amid continued severe economic conditions in Japan, net sales of the Computer Network (CN) division edged forward 0.9 percent, to ¥17.2 billion. The division's business is principally based on providing customers with Internet and storage area network (SAN) solutions.

One of the products contributing most to sales during the fiscal year was NetScreen Technologies' Firewall/VPN. A core product of the division, F5 Networks' Internet traffic management system also posted favorable sales growth and gained considerable attention in the market for its high networkavailability and stability. SAN-related products also performed well, with original equipment manufacturing (OEM) sales of Brocade Communications Systems' Fibre Channel Fabric Switches climbing 1.3 times year on year. Establishing a base for future growth, TimesTen Performance Software's in-memory database products began to be utilized as infrastructure for soft switches in the voice over IP (VoIP) field during the fiscal year.

Among new developments, we established Procket Networks Japan, Inc., a joint venture that will act as a base for entry into the Japanese market by Procket Networks, Inc., a Silicon Valley based communications device venture. The Japanese joint venture, formed in collaboration with NTTCP Communications, Inc., and Net One Systems Co., Ltd., is marketing Procket Networks' advanced packet communications technology products, such as its representative ultrahigh-end routers.

With our own proprietary Ruff Systems, we concentrated especially on development during the fiscal year to strengthen functions in line with such trends as the progressive shift to broadband and the digitization of television broadcasting. Utilizing our accumulated technologies in networks and SAN, we plan to offer Ruff Systems network as video solutions that encompass the entire process from content management to distribution.

#### •Electronic Components

Net sales for the Electronic Components (EC) division rose 5.1 percent to ¥77.4 billion. Sales growth was supported by strong efforts to sell high-value-added semiconductor devices to cope with the difficult conditions caused by the less-than-full recovery in the semiconductor market. The division's product lineup includes semiconductor devices, board computer products, software, and other electronic components.

Semiconductor products accounted for 88 percent of divisional net sales. Major contributors to sales growth included Xilinx's programmable logic devices (PLDs), for which applications are expanding in the consumer electronics market; Pixel





Works' custom ICs, which boast the number one share of the market for image enhancement ICs for liquid crystal display (LCD) projectors; and Linear Technology's analog ICs for power sources, which enjoyed robust demand for use in mobile devices. Because they require technical support, these high-value-added products provide a particular strong boost to sales.

Sales of motherboards, VME boards, and other boards struggled during the fiscal year, resulting in an overall slight decline in the category. On the other hand, sales of software edged forward thanks to expanded sales of operating system software for embedded system devices. Sales of general electronic components also advanced slightly due to increased sales of panel programmable controllers and power switches for consumer electronics devices.

Utilizing the abundant experience of its design & development centers, the division offers a design service for semi-custom ICs such as PLD and ASIC on a contract basis as well as developing its own products. In May 2002, the division established a dedicated sales force for its design services, and successfully increased the volume of orders. In proprietary product development, the division created a variety of largescale integrated circuits (LSIs) that achieve synergies with distributing products handled by the division. Examples included peripheral LSIs for Xilinx's PLDs and a multi input-output controller for LCD projectors under an alliance with Pixel Works. In the future, the division will aggressively market high-valueadded products that require technical support. At the same time, it will improve and expand its lineup of products for digital consumers. Furthermore, the division will work to establish a strong foundation as a "technology trading company" by selling high-value-added products that require technical support, utilizing the technical capabilities of its design development centers to design and develop semi-custom ICs, and strengthening development of original products.

On March 7, 2003, Tokyo Electron Device Ltd., a subsidiary operating the Electronic Components Division, went public, listing its shares on the Second Section of the Tokyo Stock Exchange.

# Cost of Sales, SG&A Expenses and Operating Income

Although cost of sales increased 8.0 percent to ¥326.5 billion, cost of sales as a percentage of net sales declined to 70.9 percent from 72.3 percent for the prior fiscal year. Although downward pressure on prices by customers negatively affected profitability, the decrease in cost of sales as a percentage of net sales can be primarily attributed to reductions in the production fixed cost and the increase in plant utilization rates due to sales growth. Consequently, gross profit amounted to ¥134.0 billion, up 16.0 percent and gross margin rose 1.4 points to 29.1 percent.







Selling, general and administrative expenses decreased 0.7 percent to ¥132.9 billion. Based on efforts to be selective and focused in R&D projects that the Company undertakes, R&D expenses, which are included in SG&A expenses, decreased 6.9 percent to ¥50.1 billion year on year. R&D expenses were allocated principally to the development of 90 nanometer-and-smaller design rule process technology and equipment as well as new technology.

As a result of the increase in gross profit and the decline in SG&A expenses, operating income improved ¥19.4 billion from the ¥18.3 billion loss in the prior fiscal year, to ¥1.1 billion.

#### Other Income (Expenses) and Net Income

Net other expenses expanded by ¥19.5 billion to ¥24.1 billion. The increase can be mainly attributed to an extraordinary loss of ¥20.6 billion related to restructuring expenses. Major expenses included ¥10.0 billion in devaluation of inventories that will be disposed and ¥7.8 billion for an expenses reserve related to the planned reduction of employees in the fiscal year ending March 2004. Income before income taxes declined ¥100 million from the prior fiscal year to a loss of ¥23.0 billion.

Based on a decision on the potential recovery of deferred tax assets, a reversal from the deferred tax assets account resulted in provision income taxes of ¥18.5 billion in the fiscal year under review. Consolidated net loss, therefore, expanded ¥21.6 billion, to ¥41.6 billion. Consequently, net loss per share fell from ¥113.85 to ¥238.57. Cash dividends were ¥8.00 per share, the same as in the prior fiscal year.

# Impact of Fluctuation in Foreign Currency Exchange Rates on Performance

Changes in exchange rates have no material effect on Tokyo Electron's results because exports from Japan are generally denominated in yen. While some settlements are denominated in U.S. dollars, exchange risk is hedged by concluding forward exchange contracts individually at the time orders are received. Also, the contribution of foreign currency-denominated transactions involving foreign-made merchandise imported to Japan is comparatively low and did not have a material effect in the year ended March 31, 2003.

## **Financial Position and Cash Flows**

#### **Financial Position**

Current assets at March 31, 2003 expanded 0.9 percent year on year to ¥356.4 billion. Among the main factors in this increase were a ¥14.2 billion rise in trade notes and accounts receivable along with greater sales and a ¥4.6 billion increase in cash and cash equivalents. Inventory, however, declined ¥15.5 billion by devaluation and so forth. Excluding accounts receivable—others, trade notes and accounts receivable turnover based at the end of fiscal year improved to 135 days, compared with 138 days for the prior fiscal year, and inventory turnover improved to 89 days, compared with 111 days in the previous fiscal year.

Property, plant and equipment declined 11.1 percent to ¥119.6 billion year on year. The primary factors contributing to the decline were the sale of land and buildings by Tokyo Electron Oregon, LLC and an evaluation loss on buildings owned by Tokyo Electron Texas, LLC. During the fiscal year, Tokyo Electron invested ¥12.4 billion in property, plant and equipment, consisting primarily of the purchase of equipment for evaluation and IT-related purchases.

Investments and other assets dropped 29.2 percent to ¥48.9 billion. The main factors in the decrease in investments and other assets were the ¥13.2 billion fall in deferred tax assets compared with the previous fiscal year and a ¥2.3 billion decrease in investments in securities due to mark-to-market adjustments. Total assets declined 5.7 percent to ¥524.9 bil-

lion, primarily because of the drop in fixed assets.

Current liabilities expanded 46.8 percent to ¥160.7 billion. There were two major factors behind this increase. There was an increase in trade notes and accounts payable due to greater procurement necessary for the higher production levels. Also, a ¥5.2 billion decline in short-term borrowings was offset by a ¥25.0 billion increase in commercial paper. In addition, the outstanding balance of ¥15.5 billion for the September 2003 scheduled redemption of the 2nd convertible bond was transferred from long-term to current liabilities. Furthermore, a ¥8.6 billion reserve was set up in preparation for a series of business restructuring measures.

	Millions of yen (percentage of total assets)					
	2003		2002	2	2003	
Total assets	¥524,901 (	(100.0)	¥556,915	(100.0)	\$4,366,899	
Cash and cash equivalents	52,982	(10.1)	48,409	(8.7)	440,784	
Trade notes and accounts receivable	182,218	(34.7)	167,982	(30.2)	1,515,953	
Inventories	111,810	(21.3)	127,352	(22.9)	930,201	
Investments and other assets	48,851	(9.3)	68,981	(12.4)	406,419	
Property, plant and equipment	119,611	(22.8)	134,511	(24.2)	995,101	
Total liabilities	268,402	(51.1)	249,278	(44.8)	2,232,958	
Short-term borrowings	8,729	(1.7)	13,924	(2.5)	72,623	
Trade notes and accounts payable	48,279	(9.2)	41,053	(7.4)	401,656	
Accrued income taxes	3,645	(0.7)	1,663	(0.3)	30,325	
Long-term debt, less current portion	70,230	(13.4)	105,452	(18.9)	584,271	
Shareholders' equity	252,904	(48.2)	¥307,579	(55.2)	2,104,029	







Working capital contracted to ¥195.7 billion from ¥243.9 billion in the previous fiscal year, and the current ratio declined to 2.2 to 1 from 3.2 to 1 a year earlier.

Because of the transfer of the current portion of convertible and straight bonds to current liabilities, Tokyo Electron's long-term debt declined 23.0 percent year on year to ¥107.7 billion.

The balance of equity-linked bonds outstanding at March 31, 2003 was ¥25.5 billion.

Shareholders' equity decreased 17.8 percent to ¥252.9 billion, due to the contraction in retained earnings and the increase of treasury stock. As a percentage of total assets, shareholders' equity declined to 48.2 percent from 55.2 percent a year earlier. Return on average total shareholders' equity was minus 14.8 percent.

#### **Cash Flows**

Net cash provided by operating activities amounted to ¥21.4 billion, decreasing from ¥77.6 billion a year earlier. Net cash

flow, defined as the sum of net income and depreciation and amortization, dropped from ¥6.4 billion to minus ¥14.2 billion. Growth in accounts receivables due to increased sales contributed to the decline in net cash flow provided by operating activities.

Net cash used in investing activities was ¥7.3 billion, down from ¥35.8 billion in the prior fiscal year. Investment in property, plant and equipment totaling ¥7.0 billion mainly comprised the purchase of equipment for R&D.

Net cash used in financing activities amounted to ¥9.9 billion compared with ¥57.2 billion a year earlier. Tokyo Electron had significant outlays during the fiscal year related to the redemption of the 6th unsecured bond issue, the repayment of short-term borrowings, the acquisition of treasury stock, and the payment of dividends. These outlays were offset, however, by proceeds from the issue of commercial paper and from the initial public offering of Tokyo Electron Device. Cash and cash equivalents at the end of the year totaled ¥53.0 billion, up ¥4.6 billion from ¥48.4 billion at the end of the prior fiscal year.







Net Cash Flow = Net income + Depreciation and Amortization

## Consolidated Six-Year Summary

Tokyo Electron Limited and its Subsidiaries

Years ended March 31, 2003, 2002, 2001, 2000, 1999 and 1998

	Thousands of U.S. dollars		Millions of yen				
	2003	2003	2002	2001	2000	1999	1998
Net sales	\$ 3,831,782	¥460,580	¥417,825	¥723,880	¥440,729	¥313,820	¥455,585
Semiconductor production equipment <sup>1</sup>	3,034,022	364,689	325,715	619,001	355,103	242,240	380,184
Computer network <sup>1</sup>	143,035	17,193	17,031	14,054	12,357	12,878	15,262
Electronic components	643,762	77,380	73,658	89,211	72,051	57,734	60,139
Other	10,963	1,318	1,421	1,614	1,218	968	-
Operating income (loss)	9,308	1,119	(18,310)	121,086	35,816	6,383	63,296
Income (loss) before income taxes	(191,435)	(23,010)	(22,919)	99,132	29,689	6,038	62,834
Net income (loss)	(345,715)	(41,554)	(19,938)	62,012	19,848	1,866	30,009
Domestic sales	1,584,968	190,513	186,516	299,272	183,987	149,838	230,550
Overseas sales	2,246,814	270,067	231,309	424,608	256,742	163,982	225,035
Depreciation and amortization	227,736	27,374	26,294	21,679	19,446	17,921	12,652
Capital expenditures <sup>2</sup>	102,824	12,359	30,946	49,403	18,999	23,478	33,302
R&D expenses	416,993	50,123	53,827	52,911	37,135	26,842	26,813
Total assets	4,366,899	524,901	556,915	729,511	499,499	414,903	493,600
Total shareholders' equity	2,104,029	252,904	307,579	333,281	273,603	257,716	261,009
Number of employees		10,053	10,171	10,236	8,946	7,835	7,287
	U.S. dollars			Υe	n		
Net income (loss) per share of common stock: <sup>3</sup>							
Basic	\$ (1.98)	¥ (238.57)	¥ (113.85)	¥ 353.76	¥ 113.53	¥ 10.70	¥ 174.68
Diluted <sup>4</sup>	–	-	-	344.75	110.64	-	168.43
Cash dividends per share of common stock:							
Actual	0.07	8.00	8.00	38.00	14.00	12.00	30.00
Adjusted <sup>3</sup>	0.07	8.00	8.00	38.00	14.00	12.00	30.00
Number of shares outstanding (thousands)		175,698	175,691	175,691	175,660	174,624	174,569
Number of shareholders		49,259	37,116	42,781	7,147	8,576	9,562
				Perc	ent		
ROE	–	(14.8)	(6.2)	20.4	7.5	0.7	12.8
Operating income margin		0.2	(4.4)	16.7	8.1	2.0	13.9
Shareholders' equity ratio		48.2	55.2	45.7	54.8	62.1	52.9
Asset turnover (times)		0.85	0.65	1.18	0.96	0.69	1.03
	U.S. dollars			Thousand	ls of yen		
Net sales per employee	\$ 381,158	¥ 45,815	¥ 41,080	¥ 70,719	¥ 49,265	¥ 40,054	¥ 62,520

1 The FPD, Flat Panel Display, Department has been included in Semiconductor Production Equipment. The Computer Systems division was renamed the Computer Network division as of April 1, 2000.

2 Capital expenditures before 1999 represent the gross increase in property, plant and equipment, intangible assets and other depreciable assets. Capital expenditures from 2000 only represent the gross increase in property, plant and equipment.

3 From 2003, the Company began applying "Accounting Standards regarding Net Income per Share (Business Accounting Standards No.2)" and "Practical Guidelines for Applying Accounting Standards regarding Net Income per Share (Practical Guidelines for Applying Accounting Standards No.4)" released by the Accounting Standards Board of Japan (ASBJ).

4 Dilution is not assumed for the years ended March 2003, 2002 and 1999.

## **Consolidated Balance Sheets**

Tokyo Electron Limited and its Subsidiaries March 31, 2003 and 2002

ASSETS	Millions	Thousands of U.S. dollars	
	2003	2002	2003
Current assets:			
Cash and cash equivalents (Note 3)	¥ 52,982	¥ 48,409	\$ 440,784
Marketable securities (Note 4)	-	10	-
Trade notes and accounts receivable	182,218	167,982	1,515,953
Allowance for doubtful accounts	(342)	(620)	(2,844)
Inventories (Note 5)	111,810	127,352	930,201
Deferred tax assets (Note 9)	4,152	3,402	34,539
Prepaid expenses and other current assets	5,619	6,888	46,746
Total current assets	356,439	353,423	2,965,379

#### Investments and other assets:

Investments in securities (Note 4)	7,216	9,535	60,036
Deferred tax assets (Note 9)	9,362	22,591	77,890
Intangible and other assets	32,273	36,855	268,493
Total investments and other assets	48,851	68,981	406,419

### Property, plant and equipment:

Land	19,718	19,908	164,047
Buildings	110,950	114,586	923,046
Machinery and equipment	97,937	95,615	814,781
Construction in progress	2,480	5,139	20,632
Total property, plant and equipment	231,085	235,248	1,922,506
Less: Accumulated depreciation	111,474	100,737	927,405
Net property, plant and equipment	119,611	134,511	995,101
Total assets	¥524,901	¥556,915	\$4,366,899

LIABILITIES AND SHAREHOLDERS' EQUITY	Millions of yen		Thousands of U.S. dollars	
	2003	2002	2003	
Current liabilities:				
Short-term borrowings (Note 7)	¥ 8,729	¥ 13,924	\$ 72,623	
Current portion of long-term debt (Note 7)	37,404	26,387	311,177	
Commercial paper	35,000	10,000	291,181	
Trade notes and accounts payable	48,279	41,053	401,656	
Accrued income taxes	3,645	1,663	30,325	
Allowance for employees' bonuses	3,629	2,463	30,193	
Provision for loss on restructuring	8,577	-	71,358	
Accrued expenses and other current liabilities	15,443	14,012	128,475	
Total current liabilities	160,706	109,502	1,336,988	
Long-term debt, less current portion (Note 7)	70,230	105,452	584,271	
Allowance for retirement and severance benefits (Note 8)	36,392	32,984	302,762	
Other non-current liabilities	1,074	1,340	8,937	
Total liabilities	268,402	249,278	2,232,958	
Minority interest	3,595	58	29,912	
Shareholders' equity:				
Common stock (Note 10)	47,223	47,214	392,872	
Authorized: 300,000,000 shares				
Issued: 175,697,930 at March 31, 2003				
175,691,903 at March 31, 2002				
Additional paid-in capital (Note 10)	70,285	70,276	584,736	
Retained earnings	147,465	190,195	1,226,828	
Unrealized gains on securities	(59)	1,171	(490)	
Foreign currency translation adjustments	1,229	3,738	10,220	
Treasury stock at cost (Note 11)	(13,239)	(5,015)	(110,137)	
2,034,755 at March 31, 2003				
605,867 at March 31, 2002				
Total shareholders' equity	252,904	307,579	2,104,029	
Total liabilities and shareholders' equity	¥524,901	¥556,915	\$4,366,899	

# Consolidated Statements of Operation Tokyo Electron Limited and its Subsidiaries Years ended March 31, 2003, 2002 and 2001

	Millions of yen			Thousands of U.S. dollars
-	2003	2002	2001	2003
Net sales	¥460,580	¥417,825	¥723,880	\$3,831,782
Cost of sales	326,540	302,270	458,902	2,716,637
Gross profit	134,040	115,555	264,978	1,115,145
Selling, general and administrative expenses	132,921	133,865	143,892	1,105,837
Operating income (loss)	1,119	(18,310)	121,086	9,308
Other income (expenses):				
Interest and dividend income	191	351	669	1,591
Interest expenses	(1,601)	(1,960)	(2,378)	(13,321)
Restructuring costs (Note 12)	(12,055)	-	-	(100,295)
Amount transferred to provision for loss on restructuring				
(Note 13)	(8,577)	-	-	(71,358)
Devaluation of investments in securities	(739)	(1,236)	(1,552)	(6,147)
Amortization of discrepancy arising from adoption of				
retirement benefit accounting standards (Note 8)	-	-	(15,975)	-
Other, net	(1,348)	(1,764)	(2,718)	(11,213)
Income (loss) before income taxes	(23,010)	(22,919)	99,132	(191,435)
Provision for income taxes (Note 9):				
Current	4,806	2,612	50,589	39,982
Deferred	13,726	(5,602)	(13,490)	114,198
Minority interest	12	8	21	100
Net income (loss)	¥ (41,554)	¥ (19,938)	¥ 62,012	\$ (345,715)
Per share of common stock:		Yen		U.S. dollars
- Net income (loss) — basic	¥ (238.57)	¥ (113.85)	¥ 353.76	\$ (1.98)
Net income — diluted	-	-	344.75	-
Cash dividends	8.00	8.00	38.00	0.07

# Consolidated Statements of Shareholders' Equity Tokyo Electron Limited and its Subsidiaries Years ended March 31, 2003, 2002 and 2001

	Millions of yen			Thousands of U.S. dollars
	2003	2002	2001	2003
Common stock				
Balance at beginning of year	¥ 47,214	¥ 47,213	¥ 47,163	\$ 392,793
Conversion of convertible bonds (Note 10)	9	1	50	79
Balance at end of year	47,223	47,214	47,213	392,872
Additional paid-in capital				
Balance at beginning of year	70,276	70,275	70,225	584,657
Conversion of convertible bonds (Note 10)	9	1	50	79
Balance at end of year	70,285	70,276	70,275	584,736
Retained earnings				
Balance at beginning of year	190,195	214,920	157,876	1,582,323
Increase due to the change in the equity holding as a				
result of a public offering by a consolidated subsidiary	219	-	-	1,826
Net income (loss) for year	(41,554)	(19,938)	62,012	(345,715)
Cash dividends	(1,395)	(4,031)	(4,734)	(11,606)
Bonuses to directors	-	(756)	(234)	-
Balance at end of year	147,465	190,195	214,920	1,226,828
Unrealized gains on securities				
Unrealized holding gains arising during the period	(59)	1,171	1,658	(490)
Foreign currency translation adjustments	1,229	3,738	2,734	10,220
Treasury stock, at cost (Note 11)	(13,239)	(5,015)	(3,519)	(110,137)
(2001: 407,556 shares; 2002: 605,867 shares				
2003: 2,034,755 shares)				
Total shareholders' equity	¥252,904	¥307,579	¥333,281	\$2,104,029

## Consolidated Statements of Cash Flows

Tokyo Electron Limited and its Subsidiaries Years ended March 31, 2003 and 2002

			Thousands of
	Millions of yen		U.S. dollars
	2003	2002	2003
Cash flow from operating activities:			
(Loss) before income taxes	¥(23,010)	¥(22,919)	\$(191,435)
Depreciation and amortization	27,374	26,294	227,736
Increase in allowance for retirement and severance benefits	3,416	3,164	28,422
Increase (decrease) in allowance for employees' bonuses	1,166	(8,501)	9,700
Interest expenses	1,605	1,980	13,354
Loss on disposal of fixed assets	1,707	851	14,197
Devaluation of investments in securities	739	1,236	6,147
Restructuring costs (Note 12)	12,055	-	100,295
Amount transferred to provision for loss on restructuring (Note 13)	8,577	-	71,358
(Increase) decrease in trade notes and accounts receivable	(13,662)	131,251	(113,658)
(Increase) decrease in inventories	(3,890)	28,359	(32,363)
Increase (decrease) in accounts payable	10,352	(34,166)	86,122
(Increase) decrease in prepaid consumption tax	(926)	3,901	(7,705)
Others	(2,103)	(8,425)	(17,490)
Subtotal	23,400	123,025	194,680
Receipts from interest and dividends	191	351	1,586
Interest paid	(1,670)	(1,970)	(13,893)
Income taxes paid	(527)	(43,848)	(4,386)
Net cash provided by operating activities	21,394	77,558	177,987
Cash flow from investing activities:			
Payment for purchase of property, plant and equipment	(7,028)	(31,006)	(58,472)
Payment for acquisition of intangible assets	(2,780)	(5,390)	(23,125)
Others	2,538	607	21,115
Net cash (used in) investing activities	(7,270)	(35,789)	(60,482)
Cash flow from financing activities:			
(Decrease) in short-term borrowings	(4,829)	(34,796)	(40,172)
Increase (decrease) in commercial paper	25,000	(20,000)	207,987
Proceeds from long-term debt	3,000	37	24,958
Repayment of long-term debt	(7,183)	(3,018)	(59,762)
Proceeds from issuance of bonds	-	6,095	-
Redemption of unsecured bonds	(20,000)	-	(166,389)
Purchase of treasury stock	(8,224)	(1,496)	(68,416)
Dividends paid	(1,395)	(4,030)	(11,606)
Proceeds from a public offering of a subsidiary	3,751	-	31,203
Others	(4)	(6)	(32)
Net cash (used in) financing activities	(9,884)	(57,214)	(82,229)
Effect of exchange rate changes on cash and cash equivalents	333	(1,437)	2,769
Net increase (decrease) in cash and cash equivalents	4,573	(16,882)	38,045
Cash and cash equivalents at beginning of year	48,409	65,291	402,739
Cash and cash equivalents at end of year (Note 3)	¥ 52,982	¥ 48,409	\$ 440,784

## Notes to Consolidated Financial Statements

Tokyo Electron Limited and its Subsidiaries

## 1. Basis of Presentation of Consolidated Financial Statements

The accompanying consolidated financial statements of Tokyo Electron Limited (hereinafter "the Company") and its subsidiaries have been prepared from those that have been filed with the Ministry of Finance of Japan as required by the Securities and Exchange Law and that conform with accounting principles generally accepted in Japan.

Foreign subsidiaries maintain their books in conformity with financial standards of the countries of their domicile.

For the convenience of readers outside Japan, the presentation of the consolidated financial statements and the information contained therein have been modified in some respects.

#### 2. Summary of Significant Accounting Policies (a) Principles of consolidation

The consolidated financial statements include the accounts of the Company and all of its 28 subsidiaries.

The investments in affiliates in which the Company's ownership is 20% to 50% are accounted for by the equity method.

All significant inter-company accounts, transactions and unrealized profits or losses have been eliminated in consolidation.

The fiscal year of all entities ends on March 31, except for one foreign subsidiary, which uses December 31 year end, and no significant transactions were noted between the different fiscal year ends.

U.S. dollar amounts included herein are solely for the convenience of readers and are presented at the rate of ¥120.20 to \$1.00, the approximate rate at March 31, 2003. The translation should not be construed as a representation that the Japanese yen amounts shown could be converted into U.S. dollars at that or any other rate.

#### (b) Foreign currency translation

All assets and liabilities denominated in foreign currencies are translated into Japanese yen at the rate prevailing at the balance sheet date, except for those hedged by forward exchange contracts, which are translated at the contracted rates.

Income and expense items are translated at the rates that approximate those rates prevailing at the time of the transactions.

The financial statements of foreign subsidiaries have been

#### translated in accordance with the accounting standards in Japan.

#### (c) Marketable securities and investments in securities

Securities with market prices are valued at market based on market prices on the fiscal year-end. Other securities are valued at cost using the weighted average method.

The differences between the book and market prices of marketable securities are charged to shareholders' equity. The cost of sold securities is calculated using the weighted average method.

#### (d) Inventories

Inventories other than raw materials are stated principally at cost, cost being determined principally by the individual method. Raw materials are stated principally at cost, cost being determined principally by the moving-average method.

#### (e) Property, plant and equipment

Property, plant and equipment are stated at cost. Depreciation of buildings, machinery and equipment is computed on the declining balance method for the Company and its consolidated domestic subsidiaries at rates based on the estimated useful lives of assets, while the straight-line method is mainly applied for its consolidated foreign subsidiaries over the estimated useful lives of their assets.

#### (f) Retirement and severance benefits

The Company and its consolidated domestic subsidiaries provide a reserve for employees' retirement benefits based on the projected benefit obligation and pension assets on the consolidated account settlement date. Prior year employment benefit obligations are charged to income on a straight-line basis, beginning from the consolidated fiscal year in which they are incurred, over a fixed number of years (four years) within the average remaining years of service of employees when the differences occur. Actuarial differences are charged to income on a straight-line basis, beginning from the year after they are recognized, over a fixed number of years (four years) within the average remaining years of service of employees when the differences occur.

The annual provision for accrued retirement benefits for directors and corporate auditors of the Company and its consolidated domestic subsidiaries is also calculated to state the liability at the amount that would be required if all directors and corporate auditors retired at the end of the consolidated fiscal year according to internal regulation.

#### (g) Provision for loss on restructuring

The Company and its consolidated domestic subsidiaries have booked provision for loss on restructuring in the year ended March 31, 2003 in preparation for losses that the companies expect to incur in future due to the implementation of their business restructuring plan.

#### (h) Leases

Finance lease transactions, unless the lessee practically acquires legal title to the leased asset, are treated as operating lease transactions.

#### (i) Income taxes

The Company and its consolidated subsidiaries record deferred tax assets and liabilities on temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes.

#### (j) Derivatives

The Company makes use of derivatives only to reduce exchange risk of foreign currencies. The amount of derivatives is limited to the extent of foreign currency assets, debt and actual orders, and the Company does not trade in derivatives for speculative purposes.

Derivatives are valued at market based on market prices on the fiscal year-end.

## (k) Valuation of assets and liabilities of consolidated subsidiaries

Assets and liabilities of consolidated subsidiaries are valued using the full mark-to-market method.

#### (I) Amortization of consolidated goodwill

Consolidated goodwill is evaluated on an individual basis and amortized not exceeding 20 years, and the balance is included in the Intangible and other assets.

#### (m) Per share information

Net income per share is computed based on the weighted average number of shares of common stock outstanding during each year.

From 2003, the Company began applying "Accounting Standards regarding Net Income per Share (Business Accounting Standards No.2)" and "Practical Guidelines for Applying Accounting Standards regarding Net Income per Share (Practical Guidelines for Applying Accounting Standards No.4)" released by the Accounting Standards Board of Japan (ASBJ)

Dividends per share have been presented on an accrual basis and include, in each fiscal year ended March 31, dividends approved or to be approved after such March 31 but applicable to the year then ended.

#### 3. Cash and cash equivalents

Cash and cash equivalents at March 31, 2003 and 2002 are as follows:

	Millior	ns of yen	Thousands of U.S. dollars
	2003	2002	2003
Cash and deposits	¥52,982	¥48,409	\$440,784
Time deposits due over 3 month	-	-	-
Total	¥52,982	¥48,409	\$440,784

#### 4. Marketable Securities and Investments in Securities

Marketable securities at March 31, 2003 and 2002 are as follows:				
	Million	Thousands of U.S. dollars		
	2003	2002	2003	
Mutual funds	¥ -	¥10	\$ -	

Investments in securities at March 31, 2003 and 2002 are as follows:

Millio	ns of yen	Thousands of U.S. dollars
2003	2002	2003
¥5,710	¥8,545	\$47,502
117	115	975
1,389	875	11,559
¥7,216	¥9,535	\$60,036
	Millio 2003 ¥5,710 117 1,389 ¥7,216	Millions of yen   2003 2002   ¥5,710 ¥8,545   117 115   1,389 875   ¥7,216 ¥9,535

#### 5. Inventories

Inventories at March 31, 2003 and 2002 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2003	2002	2003
Finished products	¥63,206	¥ 63,730	\$525,844
Work in process,			
raw materials and supplies	48,604	63,622	404,357
Total	¥111,810	¥127,352	\$930,201

#### 6. Pledged Assets

The Company and its consolidated subsidiaries did not hold any assets pledged as collateral at March 31, 2003 and 2002.

#### 7. Short-Term Borrowings and Long-Term Debt

Short-term borrowings are represented by 365-day notes issued by the Company and its consolidated subsidiaries to banks and bore interest at the average annual rate of 1.15% at March 31, 2003 and 1.12% 2002, Long-term debt at March 31, 2003 and 2002 is as follows:

	Millions of yen		Thousands of U.S. dollars
	2003	2002	2003
0.90% unsecured convertible			
bonds due 2003	¥15,481	¥ 15,500	\$128,794
2.00% unsecured bonds due 2002	-	20,000	-
1.39% unsecured bonds due 2004	20,000	20,000	166,389
0.85% unsecured bonds due 2003	20,000	20,000	166,389
1.30% unsecured bonds due 2005	30,000	30,000	249,584
1.59% unsecured bonds with			
warrants due 2006	4,500	4,500	37,438
0.86% unsecured bonds with			
warrants due 2007	5,500	5,500	45,757
Other loans from banks	12,153	16,339	101,097
Current portion	(37,404)	(26,387)	(311,177)
Total	¥70,230	¥105,452	\$584,271

A summary of terms and conditions of the unsecured convertible bonds at March 31, 2003 is as follows:

0.90% unsecured	convertible	bonds due	2003
-----------------	-------------	-----------	------

Bond amount	¥15,481 million
nterest rate	0.90%
ssued stocks	Common stock
Conversion price	¥3,150 per share
	subject to adjustment
	in certain events.
Convertible period	June 1, 1994-September
	29, 2003

A summary of terms and conditions of the bonds with warrants at March 31, 2003 is as follows:

1.59% unsecured bonds with warrants due 2006			
Bond amount	¥4,500 million		
Interest rate	1.59%		
Issued stocks	Common stock		
Exercise price	¥14,070		
Exercise period	July 1, 2002-June 8, 2006		

#### 0.86% unsecured bonds with warrants due 2007

Bond amount	¥5,500 million
Interest rate	0.86%
Issued stocks	Common stock
Exercise price	¥9,608
Exercise period	July 1, 2003-June 7, 2007

#### 8. Retirement and Severance Benefits

The Company and its consolidated domestic subsidiaries have noncontributory retirement and severance benefit plans that provide for pension or lump-sum payment benefits to employees who retire or terminate their employment for reasons other than dismissal for cause. In addition, the majority of the employees of the Company and its consolidated domestic subsidiaries are covered by a contributory pension plan, whose benefits are based on length of service and certain other factors and include a portion representing the government social security welfare pension.

Certain consolidated foreign subsidiaries have a noncontributory retirement and severance benefit plan that provides for pension or lump-sum payment benefits to employees who retire or terminate their employment for reasons other than dismissal for cause.

The funded status of the defined benefit plans, a substantial portion of which consists of domestic benefit plans, as of March 31, 2003 and 2002 is as follows:

	Millions of yen		Thousands of U.S. dollars
	2003	2002	2003
Benefit obligation	¥(67,714)	¥(59,125)	\$(563,344)
Fair value of plan assets	20,631	18,021	171,639
Unrecognized benefit obligation	(47,083)	(41,104)	(391,705)
Unrecognized actuarial difference	13,622	9,390	113,330
Unrecognized decrease of benefit	(1,857)	-	(15,449)
Amount recognized in the			
consolidated balance sheets (note)	¥(35,318)	¥(31,714)	\$(293,824)

Note: The annual provision for accrued retirement benefits for directors and corporate auditors (¥1,074 million in 2003, and ¥1,270 million in 2002) is not included.

Net pension cost of the plans is as follows:

	Millions of yen		Thousands of U.S. dollars
	2003	2002	2003
Service cost	¥5,164	¥4,369	\$42,963
Interest cost	1,688	1,621	14,040
Expected return on plan assets	(541)	(467)	(4,498)
Amortization of unrecognized actuarial			
difference	2,456	544	20,435
Amortization of decrease of benefit	(619)	-	(5,149)
Net pension cost	¥8,148	¥6,067	\$67,791

Significant assumptions of domestic pension plans used to determine these amounts are as follows:

	2003	2002
Allocation method of benefit obligation	Straight-lir	ne method
Discount rate	2.50%	3.00%
Expected rate of return on plan assets	3.00%	3.00%
Amortization life of prior service cost	4 years	-
Amortization life of unrecognized		
actuarial difference	4 years	4 years
Amortization life of unrecognized		
transition obligation	Fully recognize	d in the fiscal
	vear ended Ma	rch 31, 2001

#### 9. Income Taxes

Significant components of the deferred tax assets and liabilities of the Company and its consolidated subsidiaries as of March 31, 2003 and 2002 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2003	2002	2003
Deferred tax assets			
Tax loss carryforwards	¥13,394	¥17,100	\$111,432
Allowance for retirement benefits	11,417	9,252	94,982
Devaluation of inventories	6,993	944	58,176
Provision for loss on restructuring	3,549	-	29,525
Excess of depreciation			
and amortization	2,451	-	20,394
Elimination of unrealized			
gain on inventories	1,273	1,931	10,589
Elimination of unrealized gain			
on fixed assets	1,271	738	10,572
Allowance for bonuses	1,165	-	9,689
Other	3,014	5,034	25,079
Subtotal of deferred tax assets	44,527	34,999	370,438
Valuation allowance	(30,724)	(3,979)	(255,605)
Total deferred tax assets	13,803	31,020	114,833
Deferred tax liabilities			
Allowance for extraordinary			
depreciation	(523)	(754)	(4,349)
Other	(407)	(4,315)	(3,386)
Total deferred tax liabilities	(930)	(5,069)	(7,735)
Net deferred tax assets	¥12,873	¥25,951	\$107,098

Along with the promulgation on March 31, 2003 of the Law to Partially Revise the Regional Tax Law, etc. (Law No. 9, 2003), the legal effective tax rate used in the calculation of all deferred tax assets and liabilities (limited to those deferred taxes that will be realized on April 1, 2004 or later) was changed to 40.69% from 42.05%. As a result, deferred tax assets (after deducting deferred tax liabilities) at the end of the current fiscal year decreased by ¥118 million, deferred provision for income taxes increased by ¥116 million, and the net unrealized gain (loss) on securities declined by ¥2 million.

#### 10. Shareholders' Equity

The Company issued 6,027 shares and 634 shares of common stock in 2003 and 2002, respectively, in connection with conversion of convertible bonds.

Conversion of convertible bonds into common stock has been accounted for in accordance with the provisions of the Japanese Commercial Code by crediting one-half of the conversion price to the common stock account and the additional paid-in capital account respectively.

#### 11. Share Repurchase Under Stock Option Program

The Company and its consolidated subsidiaries have a stock option plan to further increase directors' and employees' incentive and motivation to raise corporate performance with the aim of maximizing corporate value. A summary of share repurchases under the stock option plan during the year ended March 31, 2003 is as follows:

	Number of shares	Millions of yen	Thousands of U.S. dollars
Outstanding at			
beginning of the year	603,000	¥4,991	\$41,526
Purchased	-	-	-
Exercised	-	-	-
Outstanding at end of the year	603,000	¥4,991	\$41,526
-			

Note: The Company has 1,431,755 shares (¥8,248 million) of treasury stock other than the above.

#### 12. Restructuring costs

These costs are for the devaluation and disposal, etc. of assets due to the consolidation or the closure of operating bases in accordance with the implementation of the business restructuring plan.

## 13. Amount transferred to provision for loss on restructuring

This amount was transferred to provision for loss on restructuring in preparation for losses expected to be incurred in future due to the implementation of the business restructuring plan.

#### 14. Leases

Pro-forma information of leased property such as acquisition cost, accumulated depreciation, obligation under finance lease, and depreciation expense of finance leases that do not transfer ownership of leased property to the lessee on an "as if capitalized" basis for the years ended March 31, 2003 and 2002 is as follows:

Leased assets not recorded in the consolidated balance sheets:

	Millions of yen		Thousands of U.S. dollars
	2003	2002	2003
Acquisition cost	¥999	¥876	\$8,309
Accumulated depreciation	255	69	2,117
Net leased property	¥744	¥807	\$6,192

Future minimum lease payments:

	Millions of yen		Thousands of U.S. dollars
	2003	2002	2003
Due within one year	¥171	¥171	\$1,424
Due over one year	573	636	4,768
Total	¥744	¥807	\$6,192

Lease payments and depreciation computed by the straight-line method over the lease terms with no residual value and imputed interest expense were ¥171 million in the year ended March 31, 2003 and ¥69 million in the year ended March 31, 2002.

Future minimum operating lease payments:

	Millions of yen		Thousands of U.S. dollars
	2003	2002	2003
Due within one year	¥1,434	¥ 868	\$11,927
Due over one year	1,582	1,976	13,162
Total	¥3,016	¥2,844	\$25,089

#### **15. Segment Information**

The Company and its consolidated subsidiaries operate in a single segment.

#### **16. Contingent Liabilities**

The Company and its consolidated subsidiaries did not hold any contingent liabilities at March 31, 2003.

## **Independent Auditors' Report**

#### To the Board of Directors, Tokyo Electron Limited

We have examined the consolidated balance sheets of Tokyo Electron Limited and its consolidated subsidiaries as of March 31, 2003 and 2002, the related statements of income and shareholders' equity for each of the three years in the period ended March 31, 2003, and the statements of cash flows for the years ended March 31, 2003 and 2002, all expressed in yen. Our examinations were made in accordance with auditing standards generally accepted in Japan and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the consolidated statements present fairly the financial position of Tokyo Electron Limited and its consolidated subsidiaries at March 31, 2003 and 2002, the results of their operations for each of the three years in the period ended March 31, 2003, and their cash flows for the years ended March 31, 2003 and 2002, in conformity with accounting principles generally accepted in Japan applied on a consistent basis.

The amounts expressed in U.S. dollars have been translated on the basis described in Note 2-a.

Tokyo, Japan June 20, 2003

玄中昌平

Masatoshi Yoshino Certified Public Accountant

宫下英次 芹浦文秀

Eiji Miyashita Certified Public Accountant

Fumihiko Sugiura Certified Public Accountant

## **Corporate Directory**

(As of June 20, 2003)

#### **JAPAN**

#### TOKYO ELECTRON LIMITED

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#### **Regional Offices**

Fuchu Technology Center, Osaka Branch Office, Kyushu Branch Office, Yamanashi Regional Office (Fujii/Hosaka), Nagoya Sales Office

#### TOKYO ELECTRON TOHOKU LIMITED

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#### TOKYO ELECTRON AT LIMITED

#### Headqurters • Miyagi Plant

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**Fujii Plant** 2381-1 Kitagejo, Fujii-cho, Nirasaki City Yamanashi 407-8511

#### Hosaka Plant 650 Mitsuzawa, Hosaka-cho

Nirasaki City, Yamanashi 407-0192 Kansai Technology Center

1-8 Fuso-cho, Amagasaki City Hyogo 660-0891

#### TOKYO ELECTRON KYUSHU LIMITED

**Headqurters • Saga Plant** 1375-41 Nishi-Shinmachi Tosu City, Saga 841-0074

**Kumamoto Plant** 2655 Tsukure, Kikuyo-machi Kikuchi-gun, Kumamoto 869-1197

**Ozu Plant** 272-4 Takaono, Ozu-machi Kikuchi-gun, Kumamoto 869-1232

**Koshi Plant** 1-1 Fukuhara, Koshi-machi Kikuchi-gun, Kumamoto 861-1116

#### TOKYO ELECTRON EE LIMITED

2-41 Machiya 1-chome, Shiroyama-machi Tsukui-gun, Kanagawa 220-0101 Fujii Plant Hosaka Plant Kumamoto District Office

#### TOKYO ELECTRON SOFTWARE TECHNOLOGIES LIMITED

30-7 Sumiyoshi-cho 2-chome Fuchu City, Tokyo 183-8705

Sapporo Technology Center Marumasu Building No. 18, Nishi 1-chome Kita 7-jo, Kita-ku, Sapporo City, Hokkaido 060-0807 Tohoku Station Yamanashi Station Kyushu Station

#### **TOKYO ELECTRON FE LIMITED**

30-7 Sumiyoshi-cho 2-chome Fuchu City, Tokyo 183-8705 **District Offices** Iwate, Tsuruoka, Miyagi, Aizuwakamatsu, Mito, Nirasaki, Toyama, Kuwana, Tsu, Osaka, Higashi-Hiroshima, Fukuyama, Saijo, Nagasaki, Kikuyo, Ozu, Koshi, Oita, Saga

#### TOKYO ELECTRON DEVICE LIMITED

1 Higashikata-cho, Tsuzuki-ku Yokohama City, Kanagawa 224-0045 **Sales Offices** Sendai, Mito, Kita-Kanto, Tachikawa, Yokohama, Matsumoto, Nagoya, Osaka, Fukuoka, Tokyo Office (Kanda)

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30-7 Sumiyoshi-cho 2-chome, Fuchu City, Tokyo 183-8705

#### TOKYO ELECTRON LOGISTICS LIMITED

30-7 Sumiyoshi-cho 2-chome Fuchu City, Tokyo 183-8705

#### TOKYO ELECTRON AGENCY LIMITED

#### 30-7 Sumiyoshi-cho 2-chome

## Fuchu City, Tokyo 183-8705

#### AMERICA

#### **TOKYO ELECTRON AMERICA, INC.** 2400 Grove Boulevard, Austin,

Texas 78741

#### Branch Offices

Albuquerque, Boise, Burlington, Colorado Springs, Dallas, Fishkill, Los Angeles, Manassas, Marlborough, Phoenix, Portland(Oregon), Richmond, Santa Clara

#### TOKYO ELECTRON MASSACHUSETTS, LLC

123 Brimbal Avenue, Beverly Massachusetts 01915

#### TOKYO ELECTRON ARIZONA, LLC

2120 West Guadalupe Road, Gilbert Arizona 85233

#### SUPERCRITICAL SYSTEMS, INC.

2120 West Guadalupe Road, Gilbert, Arizona 85233

#### TIMBRE TECHNOLOGIES, INC.

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#### EUROPE

#### TOKYO ELECTRON EUROPE LIMITED

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#### TOKYO ELECTRON IRELAND LIMITED

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#### TOKYO ELECTRON ISRAEL LIMITED

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Migdal HaEmek

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#### ΑSΙΑ

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#### TOKYO ELECTRON TAIWAN LIMITED

7FI, No.18, Pu-ding Road Hsin-chu City, Taiwan 300, R.O.C.

#### TOKYO ELECTRON (SHANGHAI) LOGISTIC CENTER LIMITED

30FI, No. 28, Suzhou Xin Jin Qiao Road, Suite 3001, Pudong Shanghai, 201206, China **Branch Office** TianJin

## **Investor Information**

(As of March 31, 2003)

Corporate Name:

Established:

November 11, 1963

**Annual General Meeting of Shareholders:** June

#### Common Stock:

Stock trading unitAuthorized300,Issued and outstanding175,Number of shareholders175,

100 shares 300,000,000 shares 175,697,930 shares 49,259

#### Distribution of ownership among shareholders



**Common Stock Listed on:** The Tokyo Stock Exchange 1st Section (#)

#### Transfer Agent for Common Stock:

Chuo Mitsui Trust and Banking Co., Ltd. 33-1 Shiba 3-chome, Minato-ku, Tokyo 105-8574, Japan

#### For further information, contact:

Investor Relations Group Corporate Communications Department Tokyo Electron Limited 3-6 Akasaka 5-chome, Minato-ku Tokyo 107-8481 Tel: +81-3-5561-7003 Fax: +81-3-5561-7394 E-mail: ir@corp.tel.co.jp http://www.tel.com

#### **Quarterly Stock Price Range**





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