### **Review of Operations**

# Semiconductor Production Equipment

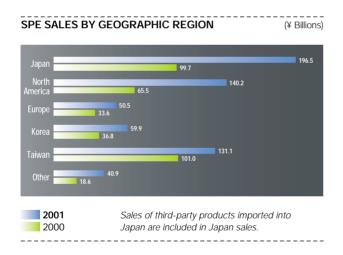
Since the second half of 1999, demand has risen sharply for semiconductor chips and LCD panels used in network and mobile related products such as PCs and mobile phones, while 2000 witnessed a substantial increase in capital investment by semiconductor and LCD manufacturers worldwide. As a result, orders for the Semiconductor Production Equipment (SPE) division for the fiscal year ended March 31, 2001 increased 20.6 percent year-on-year to ¥627.6 billion.

Resurgent demand has made improving production capability a pressing issue, and the Company has successfully expanded it. Consequently, net sales for the SPE division rose 74.3 percent to a record-breaking ¥619.0 billion. The division accounted for 85.5 percent of total consolidated net sales, up from 80.6 percent in the previous fiscal year.

However, inventory adjustments for semiconductors and slow growth in the U.S. economy have cast a shadow over the semiconductor market since late 2000, and capital investment by semiconductor manufacturers began to contract in early 2001. While orders began to show signs of slowing at the beginning of the year, revenues for the period under review were supported by sufficient backlog.

#### **Review by Geographic Region**

SPE division sales expanded in every region in which Tokyo Electron operates. Sales in Japan jumped 97.2 percent to ¥196.5 billion, accounting for 31.7 percent of total net sales in the division. This was the highest



percentage among all regions, exceeding Taiwan, which last year surpassed Japan in net sales for the first time in the Company's history. Sales in North America more than doubled to ¥140.2 billion, as our market share in the U.S. continues to expand. In Taiwan, sales rose 29.9 percent to ¥131.1 billion. Year-on-year sales growth was low compared to other regions, due to the fact that capital investment by Taiwanese semiconductor foundries during the previous fiscal year exceeded that of other regions. In addition, sales in Europe increased 50.4 percent to ¥50.5 billion, sales in Korea rose 62.7 percent to ¥59.9 billion and sales in other regions soared 120.0 percent to ¥40.9 billion.

### **Review by Product**

Sales in all product categories increased year-on-year, with *CLEAN TRACK ACT®* 8 series coater/developer systems and *UNITY®* series etching systems generating particularly strong gains. These products—which already command an impressive share of the world market—recorded sales growth exceeding the market average, resulting in an even larger market share.

One feature of capital investment during the fiscal year was that manufacturers of DRAM chips and flash memory resumed building new production lines.  $\alpha$ -series oxidation/diffusion/LP-CVD systems directly benefited from this development, as sales reached their highest levels in three years. The Company is currently

Note: Product names and company names are trademarks or registered trademarks of their respective holders.

developing TELFORMULA™, a new ultra-fast thermal processing system that speeds up the production cycle through small-batch and sequential processes designed to be adaptable to changes in the volume and variety of products, such as System LSIs.

Single wafer CVD systems MB2-730 and the UNITY® series experienced significant year-on-year sales growth. While maintaining its strengths in front-end-of-line (FEOL), the Company plans to expand its range of applications to back-end-of-line (BEOL) interconnect processes, which are expected to have excellent growth potential.



Sales of cleaning systems and wafer probers also increased substantially. The new PR200Z cleaning system, which incorporates unique cleaning technology for BEOL interconnect processes, supported increased revenue during the past fiscal year. The product's launch has earned Tokyo Electron the second-highest market share among manufacturers of cleaning systems

worldwide. Orders have been solid for P12XL, a wafer prober model capable of handling 300mm wafers. This high-accuracy, high-load resistance model is a step ahead of the competition and is building toward 300mm market leadership.

The CLEAN TRACK ACT® series of spin-on dielectric (SOD) coaters for BEOL multilayer processes, which was launched only two years ago, has been introduced in the advanced R&D lines of almost all of the world's leading semiconductor manufacturers. It is currently being evaluated on the basis of its performance.

Sales of LCD production equipment increased 68.3 percent year-on-year to ¥71.8 billion, setting a record for the second year in a row. The trend in recent years has been toward increasing substrate size.

During the past fiscal year, Tokyo Electron began shipments of 300mm equipment to semiconductor manufacturers that have taken the lead in switching to 300mm wafers.

#### Acquisition of U.S. Companies, Supercritical Systems, Inc. and Timbre Technologies, Inc.

During the past fiscal year, Tokyo Electron purchased two U.S. companies in order to obtain access to their innovative technologies. Supercritical Systems, Inc., acquired in October 2000, possesses promising supercritical cleaning technology for semiconductors with sub-100nm design rules. Timbre Technologies, Inc., which was purchased in February 2001, has developed Optical Digital Profilometry (ODP), a method of metrology that will enable Tokyo Electron to incorporate the Advanced Process Control capability required for future markets into its semiconductor production lines. Use of this technology will allow the Company to offer an array of highvalue-added products to its customers.

### Partnership with U.S. Company, NuTool Inc.

In November 2000, Tokyo Electron formed a partnership with NuTool Inc., a U.S.-based supplier of advanced copper electroplating systems. The Company has started global marketing, sales and support of the systems, except in certain Southeast Asian countries. NuTool™ 2000 deposits a planar copper film with complete feature fill, independent of aspect ratio, and low field thickness. This alliance has given rise to a new business model that will make the best use of Tokyo Electron's powerful global sales and support engine and its longstanding expertise in the distribution business. The Company is flexible enough to work towards similar alliances with leading equipment suppliers.

# Computer Network









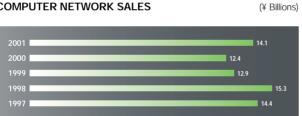
F5 Networks, Inc.

- Server Load Balancer
- nCipher Corporation plc.
- Hardware Security Module
- SSI Accelerator
- LuxN, Inc.
- DWDM Equipment
- Sony Corp.
- · High Performance Tape Library

Net sales for the Computer Network (CN) division increased 13.7 percent to ¥14.1 billion, the result of firm growth in sales of IT-related equipment as part of the division's continuing emphasis on the market for Internet business. Sales of network-related products and storage area network (SAN)-related products were particularly strong

In the network-related products segment, sales of Gigabit Ethernet switches from Extreme Networks increased 1.7 times over the previous fiscal year, while sales of server load balancing equipment from F5 Networks expanded rapidly with the increase of Internet business sites. In addition, factors such as the implementation of digital signature regulations brought the importance of security to the forefront, supporting rapid growth in sales of security products from nCipher, which Tokyo Electron began handling in the previous fiscal year.





Progress in broadband network creation has added urgency to the need to increase data storage capacity and growth in internet Data Center (iDC) business. As a result, sales of Brocade Communications Systems' Fibre Channel switches, which are key to constructing SANs, increased 5.3 times year-on-year. Moreover, increasing data volume has heightened the need for

data administration, which supported growth in sales of SAN administration software from Veritas Software and tape drives from Sony.

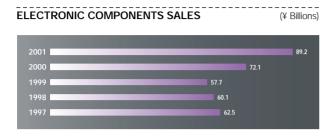
The division has oriented its product portfolio toward meeting emerging needs, with emphasis on marketing leading-edge information technologies. During the past fiscal year, the division began handling dense wavelength division multiplex (DWDM) equipment from LuxN that accelerates the progress of broadband. Furthermore, the division develops and markets original products using engineering capability accumulated through service and support for the world's leading edge products. One such product, Ruff Systems™, enables transmission of high-quality, uncompressed video, and has begun attracting attention in the broadcasting and hospital sectors.

Looking forward, Internet technology and SANs will remain a primary focus. The division intends to begin handling products that will serve as next-generation portals.

Notes: 1. The Computer Systems division was renamed the Computer Network division as of April 1, 2000.

2. Product names and company names are trademarks or registered trademarks of their respective holders.

## **Electronic Components**



Net sales for the Electronic Components (EC) division increased 23.8 percent to ¥89.2 billion, a record for the second consecutive year. The division focused on products for high-growth sectors including mobile communications, Internet appliances, infrastructure equipment required for next-generation mobile phones, and digital consumer appliances such as DVD and car

navigation systems. Vigorous marketing of these high-value-added products that require technical support has been a primary factor supporting growth.

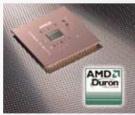
Semiconductor devices accounted for 87 percent of net sales. Sales growth was strong for semi-custom ICs, primarily programmable logic devices (PLDs), application-specific integrated circuits (ASICs) for communications-related applications, and various kinds of ICs including flash memory for mobile communications. Sales of Xilinx's semi-custom IC products were particularly strong, more than doubling year-on-year.

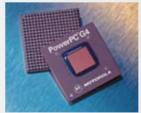
New products that the division began handling during the past three years more than doubled in sales year-on-year, and expanded to account for 10 percent of net sales. In particular, sales of image processor ICs from Pixelworks nearly quadrupled. In the past fiscal year, the division added vitality to its product portfolio by signing contracts to represent suppliers with strong capabilities in developing products for the growth markets of information and communications-related products, and digital consumer appliances.

The division also employs its broad experience to design and develop original products and provide LSI design services that meet customer needs. In the past fiscal year, orders for ASIC and PLD design increased, and demand is projected to continue expanding. The division is therefore promoting refinements and expansion of its design and development organization to improve its ability to respond to increased demand. Coupled with moves to strengthen original product development capabilities and technical support, these initiatives should give the division a firm foundation as a technology-specific trading company.

In addition, the division is expanding its ability to market new products and further strengthen customercentered sales. Improvements during the past fiscal year included the establishment of the Corporate Marketing Group and refinements in the Sales Promotion Group. Moves to deploy IT to further raise operational efficiency included a shift to mobile computing in the Sales Division and support for business-tobusiness (B2B) commerce with secondary trading companies









Note: Product names and company names are trademarks or registered trademarks of their respective holders