KLA TENCOR CORP
Form 10-K
August 20, 2007
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Fiscal Year Ended June 30, 2007

OR

¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Transition Period from to

Commission File No. 0-9992

KLA-TENCOR CORPORATION

(Exact Name of Registrant as Specified in its Charter)

Delaware	**04-2564110**
(State or Other Jurisdiction of	**(I.R.S. Employer**

Incorporation or Organization)	Identification Number)
160 Rio Robles, San Jose, California	**95134**
(Address of Principal Executive Offices)	**(Zip Code)**

Registrant s Telephone Number, Including Area Code: (408) 875-3000

Securities Registered Pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $0.001 par value per share	**The NASDAQ**
Common Stock Purchase Rights	**Stock Market LLC**

Securities Registered Pursuant to Section 12(g) of the Act:

None

(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ¨ No x

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ¨ No x

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No ¨

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of accelerated filer and large accelerated filer in Rule 12b-2 of the Exchange Act.

Large accelerated filer x Accelerated filer ¨ Non-accelerated filer ¨

Indicate by checkmark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ¨ No x

The aggregate market value of the voting and non-voting common stock held by non-affiliates of the registrant based upon the closing price of the registrant s stock, as of December 31, 2006, was $6.8 billion. Shares of common stock held by each officer and director and by each person or group who owns 5% or more of the outstanding common stock have been excluded in that such persons or groups may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The registrant had 193,153,711 shares of common stock outstanding as of July 31, 2007.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the 2007 Annual Meeting of Stockholders to be held on November 15, 2007 (Proxy Statement), and to be filed pursuant to Regulation 14A within 120 days after the registrant s fiscal year ended June 30, 2007, are incorporated by reference into Part III of this report.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. All statements other than statements of historical fact may be forward-looking statements. You can identify these and other forward-looking statements by the use of words such as may, will, could, would, should, expects, plans, anticipates, relies, believes, estimates, predicts, intends, potential, continue, or the negative of such terms, or other comparable terminology. Forward-looking statements also include the assumptions underlying or relating to any of the foregoing statements. Such forward-looking statements include, among others, forecasts of the future results of our operations; the percentage of spending that our customers allocate to process control; orders for our products and capital equipment generally; sales of semiconductors; the allocation of capital spending by our customers; growth of revenue in the semiconductor industry, the semiconductor capital equipment industry and business; technological trends in the semiconductor industry; the future impact of the restatement of our historical financial statements, shareholder litigation and related matters arising from the discovery that we had retroactively priced stock options (primarily from July 1, 1997 to June 30, 2002) and had not accounted for them correctly; our future product offerings and product features; the success and market acceptance of new products; timing of shipment of backlog; the future of our product shipments and our product and service revenues; our future gross margins; the future of our selling, general and administrative expenses; international sales and operations; maintenance of our competitive advantage; success of our product offerings; creation and funding of programs for research and development; attraction and retention of employees; results of our investment in leading edge technologies; the effects of hedging transactions; the effect of the sale of trade receivables and promissory notes from customers; our future income tax rate; dividends; the completion of any acquisitions of third parties, or the technology or assets thereof; benefits received from any acquisitions and development of acquired technologies; sufficiency of our existing cash balance, investments and cash generated from operations to meet our operating and working capital requirements; and the adoption of new accounting pronouncements.

Our actual results may differ significantly from those projected in the forward-looking statements in this report. Factors that might cause or contribute to such differences include, but are not limited to, those discussed in Item 1A, Risk Factors as well as in Item 1, Business and Item 7, Management s Discussion and Analysis of Financial Condition and Results of Operations in this Annual Report on Form 10-K. You should carefully review these risks and also review the risks described in other documents we file from time to time with the Securities and Exchange Commission, including the Quarterly Reports on Form 10-Q that we will file in the fiscal year ending June 30, 2008. You are cautioned not to place undue reliance on these forward-looking statements, and we expressly assume no obligation to update the forward-looking statements in this report after the date hereof.

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PART I

ITEM 1. BUSINESS

The Company

KLA-Tencor Corporation (KLA-Tencor or the Company and also referred to as we or our) is the world s leading supplier of process control ar yield management solutions for the semiconductor and related microelectronics industries. Our products are also used in a number of other industries, including wafer manufacturing and data storage.

Within our primary area of focus, our comprehensive portfolio of products, services, software and expertise helps integrated circuit (IC) manufacturers manage yield throughout the entire fabrication process from research and development to final volume production. These products and solutions are designed to help customers accelerate their development cycles, bring their fabs to production more quickly and achieve higher and more stable yields.

KLA-Tencor s products and services are used by virtually every major wafer, IC and photomask manufacturer in the world. These customers turn to us for inline wafer defect monitoring; reticle and photomask defect inspection; critical dimension (CD) metrology; wafer overlay metrology; film and surface measurement; and overall yield and fab-wide data analysis. Our advanced products, coupled with our unique yield technology services, allow us to deliver the yield management solutions our customers need to accelerate their yield learning rates, reduce their yield excursion risks and adopt industry-leading yield management practices.

KLA-Tencor Corporation was formed in April 1997 through the merger of KLA Instruments Corporation and Tencor Instruments, two long-time leaders in the semiconductor equipment industry, each with over 20 years of experience. KLA Instruments Corporation was incorporated in Delaware in 1975; Tencor Instruments was incorporated in California in 1976. Effective April 30, 1997, a wholly owned subsidiary of KLA Instruments Corporation merged into Tencor Instruments, and Tencor Instruments became a wholly owned subsidiary of KLA Instruments Corporation. Immediately following this merger, KLA Instruments Corporation changed its name to KLA-Tencor Corporation.

Additional information about KLA-Tencor is available on our web site at www.kla-tencor.com. We make available free of charge on our web site our Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after we electronically file them with or furnish them to the Securities and Exchange Commission (SEC). Information contained on our web site is not part of this Annual Report on Form 10-K or our other filings with the SEC. Additionally, these filings may be obtained by visiting the Public Reference Room of the SEC at 100 F Street, NE, Washington, DC 20549 or by calling the SEC at 1-800-SEC-0330, by sending an electronic message to the SEC at publicinfo@sec.gov or by sending a fax to the SEC at 1-202-777-1027. In addition, the SEC maintains a website (www.sec.gov) that contains reports, proxy and information statements, and other information regarding issuers that file electronically.

Industry

General Background

The semiconductor or integrated circuit (IC or chip) industry is KLA-Tencor s core focus. The semiconductor fabrication process begins with a bare silicon wafer a round disk that is six, eight or twelve inches in diameter, about as thick as a credit card and gray in color. The process of manufacturing wafers is itself highly sophisticated, involving the creation of large ingots of silicon by pulling them out of a vat of molten silicon. The ingots are then sliced into wafers and polished to a mirror finish.

The manufacturing cycle of an IC is grouped into three phases: design, fabrication and testing. IC design involves the architectural layout of the circuit, as well as design verification and photomask or reticle generation.

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The fabrication of a chip is accomplished by depositing a series of film layers that act as conductors, semiconductors or insulators. The deposition of these film layers is interspersed with numerous other process steps that create circuit patterns, remove portions of the film layers, and perform other functions such as heat treatment, measurement and inspection. Most advanced chip designs require hundreds of individual steps, many of which are performed multiple times. Most chips consist of two main structures: the lower structure, typically consisting of transistors or capacitors, which performs the smart functions of the chip; and the upper interconnect structure, typically consisting of circuitry which connects the components in the lower structure. When all of the layers on the wafer have been completed, each die on the wafer is then tested for functionality.

Current Trends

Companies that anticipate future market demands by developing and refining new technologies and manufacturing processes are better positioned to lead in the semiconductor market. During past industry cycles, semiconductor manufacturers generally contended with one key new technology or market trend, such as a specific design rule shrink. In today s market, the leading semiconductor manufacturers are investing in bringing a multitude of new technologies into production at the same time, including new substrate and film materials and advanced lithography techniques.

While many of these technologies have been adopted at the development and pilot production stages, significant challenges and risks associated with each technology have affected their adoption into full-volume production. For example, as design rules decrease, yields become more sensitive to the size and density of defects, while device performance characteristics (namely speed or capacity) become more sensitive to such parameters as linewidth and film thickness variation. New process materials, such as high-k dielectrics, silicon-on-insulator (SOI) wafers and immersion lithography-capable photoresists require extensive characterization before they can be used in the manufacturing process. Moving several of these advanced technologies into production at once only adds to the risks that chipmakers face.

The continuing evolution of semiconductor devices to smaller geometries and more complex multi-level circuitry has significantly increased the cost and performance requirements of the capital equipment used to manufacture these devices. Construction of an advanced wafer fabrication facility today can cost over $3 billion, substantially more than previous generation facilities. As a result, chipmakers are demanding increased productivity and higher returns from their manufacturing equipment.

By developing new process control and yield management tools that help chipmakers accelerate the adoption of these new technologies into volume production, we enable our customers to better leverage these increasingly expensive facilities, reduce their production costs and significantly improve their return on investment (ROI). Once customers production lines are operating at high volume, our tools help ensure that yields are stable and process excursions are identified and quickly resolved. Historically, the move to each new generation s smaller design rules has increased in-process variability and thus has often required increased inspection and metrology sampling.

With our broad portfolio of application-focused technologies and our dedicated yield technology expertise, we are in position to be a key supplier of comprehensive yield management solutions for customers next-generation products, including those required for the 45nm generation and beyond.

Our Process Control and Yield Acceleration Solutions

Accelerating the yield ramp and maximizing production yields of high-performance devices are key goals of modern semiconductor manufacturing. Ramping to high-volume production ahead of competitors can dramatically increase the revenue an IC manufacturer realizes for a given product. KLA-Tencor systems not only analyze defectivity and metrology issues at critical points in the wafer, photomask and IC manufacturing processes, but also provide information to our customers so that they can identify and address the underlying process problems. The ability to locate the source of defects and characterize process issues enables our

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customers to improve control over their manufacturing processes, so they can increase their yield of high-performance parts thus maximizing their profit.

Products

KLA-Tencor operates primarily in one segment for the design, manufacture and marketing of process control and yield management systems for the semiconductor and related microelectronics industry. We also currently offer products that serve the wafer manufacturing, data storage and other industries. We design, market, manufacture and sell our equipment consisting of patterned and unpatterned wafer inspection, optical overlay metrology, electron-beam (e-beam) review, reticle and photomask inspection, and film and surface measurement tools as well as our advanced yield analysis and defect classification software to provide fab-wide yield management solutions. These solutions are optimized for the manufacturing process cells used in IC production, including lithography, deposition, etch, and chemical mechanical planarization (CMP). Our offerings can be broadly categorized into four groups: Defect Inspection; Metrology; product related services; and Software. For our customers manufacturing larger design-rule devices, we provide refurbished KLA-Tencor Certified tools along with warranty and support.

Defect Inspection

KLA-Tencor s defect inspection tools allow our customers to detect, count, classify and characterize yield failures caused by particles, pattern defects, surface anomalies and electrical issues during all stages of the IC manufacturing process. Our portfolio of tools enables our customers to ramp their production lines faster by finding new defect types during development and ramp, and to maintain high and stable yields by monitoring defect count by type during production.

Defect inspection is especially critical as our customers move to production of 65nm design-rule devices, and begin development of the 45nm node. The number of yield-relevant defects increases as semiconductor process tolerances (process windows) become tighter, a result of smaller, more densely packed semiconductor circuit patterns. Also, new defect types and yield issues arise from the necessary introduction of innovative materials, device structures and lithography techniques. As a result, chip manufacturers need to inspect more wafers per lot, more process layers and more area on the wafer, at higher sensitivities. KLA-Tencor supplies a wide portfolio of high performance inspection, classification and analysis systems that enable our customers to solve their toughest yield issues.

High-Sensitivity Broadband Brightfield Inspection

Brightfield inspection systems provide benchmark sensitivity to small defects, and capture the greatest range of defect types, which becomes increasingly important as our customers move to 45nm and smaller production. Our 2800 Series brightfield inspection system has been widely adopted at leading-edge memory, logic and foundry fabs worldwide, because it delivers the sensitivity and production-worthy performance that chipmakers need to produce market-leading devices. Key to the 2800 inspection system s success is the industry s only full-spectrum broadband light source, spanning deep ultraviolet to visible wavelengths. With the ability to tune its wavelength and employ various optical modes and algorithms, the 2800 inspection system provides sensitivity to an unequalled range of defect types throughout the chip manufacturing process. In June 2007 we introduced the newest additions to our 28xx product series, the 2810 and 2815. Targeting the 45nm node, these are the first inspection systems designed specifically for memory or logic applications. The 2810 and 2815 have twice the computing speed of the 2800 and new optical modes that enable increased defect capture.

High-Performance Darkfield Inspection

Darkfield inspection systems are used to cost effectively monitor process tools for defect yield excursions. Our widely-adopted Puma Series darkfield inspection platform leverages our patented Streak

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laser imaging technology to produce the highest sensitivities at production throughputs of any darkfield inspection system on the market. Combining advanced UV-laser illumination optics with a solid-state sensor to image the scattered light, Streak is scalable for multiple technology generations.

In September 2006, we introduced the Puma 9110 and 9130. The Puma 91xx platform builds on the advantages of the Puma 9000, with double its throughput, as well as greater sensitivity and ease of use. In June 2007, we added to the 91xx family by introducing the Puma 9150, which features enhancements that further increase the range of defect types that the system can capture.

High Resolution Electron Beam Review and Classification

Once a defect has been identified, a chipmaker must be able to review and classify the defect in order to identify and address the cause of the defect. As chipmakers moved to the 45nm node, however, inspection tools were identifying defects that fell below the resolution limit of the review tools commercially available at that time. To address this situation, we re-entered the defect review and classification market by introducing the eDR-5200 in early July 2007. The eDR-5200 features a lens system that delivers a significant improvement in resolution, meeting production and process development requirements for advanced design-rule semiconductor devices. Unique connectivity technology between the eDR-5200 and our market-leading inspection systems provides additional benefits to our customers with respect to defect re-detection, classification and speed. Because the eDR-5200 was introduced after the end of the fiscal year covered by this Annual Report on Form 10-K, sales of this product are not reflected in the financial statements included in this report.

Wafer and Film Surface Inspection

All chipmakers extensively utilize inspection tools to detect defects on blanket (unpatterned) films and bare wafer surfaces. Our Surfscan SP2 and Surfscan® SP2^{XP} products are designed to detect those types of defects.

Unpatterned Wafer and Film Surface Inspection: For certain types of inspection, such as the qualification of new process tools, periodic checks of process tools already in production, or qualification of process tools after maintenance, chipmakers may prefer to use bare or blanket-film wafers instead of patterned wafers. The Surfscan SP2 incorporates UV illumination technology to significantly enhance inspection sensitivity and speed on IC films, as well as both traditional silicon and engineered substrates. The Surfscan SP2 is capable of detecting defects as small as 30nm at higher throughputs than that of the previous-generation Surfscan SP1^{DLS} inspection system.

Bare Wafer Surface Inspection*:* The wafer substrate is the foundation of an integrated circuit. Having a defect-free wafer substrate is essential, since defects on the surface of the wafer can adversely affect subsequent semiconductor processes, and ultimately impact IC performance. In January 2007 we introduced the Surfscan SP2^{XP}, a system which has the speed and sensitivity of the Surfscan SP2, plus a new optical subsystem that allows the tool to distinguish between inherent defects in the silicon crystal which can kill transistors and thus require scrapping the wafer and other defect types that may be eliminated through cleaning or re-polishing the wafer. The Surfscan SP2^{XP} provides wafer manufacturers with the ability to scrap fewer wafers, enhancing their profitability. This tool has been adopted by all major wafer manufacturers worldwide.

Electron-Beam Inspection

For advanced IC manufacturing, e-beam inspection is essential not only during IC development, where the highest sensitivity is needed to discover defects, but also in production, where dedicated systems are required to monitor key process steps for defect excursions. Only e-beam technology can find the smallest physical defects and the subtle electrical defects that plague customers as they introduce new materials and device structures at the 65nm and 45nm nodes.

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In February 2006, we introduced the latest addition to our eS3x series of e-beam inspection systems the eS32A single system spanning development and production applications, the eS32 e-beam inspection system provides the best sensitivity at throughput for defect types that optical systems cannot find.

Macro Defect Inspection for Wafer Dispositioning

Advanced fabs require accurate and rapid disposition decision making during manufacturing, as well as quick assessment of tool and process module output. Operators have historically performed this task by visually inspecting a small sample of wafers for macro defects under a manual or semi-automated light microscope. However, advanced 300mm manufacturing, with large wafer surfaces, smaller device features and factory automation, challenges the ability of the operator to assess wafers and lots in a reliable and repeatable manner. These conditions place large quantities of valuable wafers at risk.

In May 2006, we introduced the Viper 2435XP automated 300mm wafer and tool dispositioning system, which captures a broad range of defect types at very high throughput enabling inspection of 100% of wafer lots. Delivering quick go/no-go decisions, the system enables fab engineers to take corrective action early, when wafers can be reworked or process tool problems can be repaired before additional lots are put at risk. Viper 2435XP can be integrated rapidly and seamlessly into a production environment in the lithography, CMP, etch, and films process modules.

Wafer Edge Inspection

As customers move to smaller design rules and new, more complex material stacks, the high stress wafer edge region has become a source of yield-limiting defects. Material at the edge of the wafer can flake off and fall onto the regions where the chips are being built, causing loss of yield. The recent introduction of immersion lithography adds to the potential for flakes to migrate and cause yield loss, since the flakes can be transported by the immersion fluid.

To help customers identify and fix these edge-related yield issues, KLA-Tencor introduced the VisEdge CV300, in October 2006. The tool s unique optics design and advanced defect classification capabilities allow IC manufacturers to capture a wide range of wafer-edge defect types with high sensitivity.

Reticle Inspection

Reticles are high-precision quartz plates that contain microscopic images of electronic circuits. Placed into steppers or scanners, reticles are used to transfer circuit patterns onto wafers to fabricate ICs. It is extremely important that these features are printed correctly on the reticles; very small variations in line width or placement, or defects within or adjacent to these structures, can cause devastating yield loss in the printed die.

In 2007, we introduced the TeraScanHR reticle inspection system, which provides unique defect-detection and productivity features that enable the production of defect-free reticles. The new system includes higher resolution optical imaging and several new inspection modes that enable the system to find all types of reticle defects. The TeraScanHR system s high sensitivity, improved productivity, and flexible configurations make it a cost-effective solution that meets the needs of reticle manufacturers.

IC wafer fabs use the STAR*light*-2 inspection system to qualify incoming reticles for use in IC production, and also to re-check the reticle periodically as it is used in production. Based on the TeraScan platform, STAR*light-2* offers high sensitivity to contamination, progressive defects (crystals which grow on the reticles over time), and the damage from electrostatic discharge.

Process Window Qualification

Reticles used in the manufacture of today s advanced ICs incorporate complex techniques that enable lithographers to extend existing lithographic processes to print features smaller than the wavelength of light

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used a process called sub-wavelength lithography. These techniques reduce the size and fine-tune the shape of features on the wafer. During the photolithography patterning process, marginal designs can print as out-of-focus features or not print at all, creating open circuits that translate to electrical failures within the device. However, since these errors represent design marginalities rather than physical defects on the reticle, they cannot be caught using traditional reticle inspection.

Our Process Window Qualification (PWQ) solution enables device manufacturers to identify reticle design marginalities by examining the wafer for poorly printed features using our broadband brightfield wafer inspection systems, so the manufacturers can then make more informed decisions about how closely they will operate near the boundaries of the process window, and how to address any design marginalities resulting from that decision.

Transparent Film and Opaque Substrate Inspection

Understanding the optical surface properties of modern materials has become a critical part of manufacturing. With the increasing complexity of manufacturing processes and products comes the need for extremely precise analysis and control of surface properties such as film thickness uniformity, contamination and defectivity, often in real time and online. The Candela CS20 Optical Surface Analyzer automatically detects and classifies surface defects on optoelectronic and semiconductor wafers, including wafers made of transparent materials such as sapphire and glass. By simultaneously measuring reflectivity and topographic variations on the surface, these systems enable customers to inspect epitaxial layers and film coatings for uniformity issues and defects.

Metrology

Metrology is a critical discipline in the production of high performance, reliable devices. Whether verifying that a design will be manufacturable, characterizing a new process, or monitoring high-volume manufacturing, our comprehensive set of metrology, analysis and process window optimization products gives IC manufacturers the ability to maintain tight control of their processes.

Optical Overlay Metrology

Decreasing linewidths, larger die sizes and increasing chip density all affect the tolerances for layer-to-layer alignment, or *overlay*. Mis-registration errors represent a crucial cause of yield loss. Today s lithography scanners or steppers require in-line monitoring to ensure layer-to-layer alignment is within-spec. These advanced lithography systems also require regular maintenance and performance tests to ensure they are meeting process requirements. Overlay metrology systems verify scanner or stepper performance by measuring the pattern alignment between adjacent layers of the chip, as it is built.

In 2006, we introduced the Archer 100 Overlay Control System, based on the industry-proven Archer platform. Fully redesigned optics, tighter stage tolerances, and new imaging and illumination modes combine to deliver the high levels of performance and productivity needed to address increasingly tighter overlay error budgets.

CD Metrology

The critical dimension (CD) is the smallest intended linewidth for a given device. While a useful measurement for previous-generation devices, traditional CD measurements no longer provide all the information that chipmakers need to accurately predict yield and transistor performance. Instead, complete profile information, including the width at the top and bottom of the feature, the sidewall angle and the height or depth of the feature, are needed. For this reason, CD control in the fab is increasingly changing from traditional CD-SEM (scanning electron microscope) measurements to optical CD.

In 2006, we introduced the SpectraCD-XT our fourth-generation of inline optical CD metrology systems for advanced patterning process control. The SpectraCD-XT is a non-destructive, dedicated CD and

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profile metrology system built on our high-throughput, production-proven Archer platform. With a move-acquire-measure (MAM) time under two seconds and a throughput of over 100 wafers per hour, the SpectraCD-XT leads the industry in productivity, allowing chipmakers to detect even the smallest profile excursions rapidly and repeatably.

Film Measurement

Our film metrology systems measure a variety of optical and electrical properties of thin films deposited on a wafer. These systems are used to control a wide range of wafer fabrication steps, where both within-wafer and wafer-to-wafer process uniformity are critical to achieving high device performance at low cost.

SpectraFx 200, our seventh-generation thin-film metrology system, builds upon our expertise in spectroscopic ellipsometry (SE) to measure the thickness and optical properties of complex, multi-layer film stacks. SpectraFx 200 introduces new technology to extend the measurement results from patterned targets to predict in-die process variation. This technique enables IC manufacturers to achieve cost-effective production control over their advanced film processes at the 65nm node and below.

Contamination Monitoring

One of the key parts of a transistor is called the gate, and the quality of the dielectric that comprises it is critical to the overall speed and reliability of the IC device. In today s devices, gate dielectric films have become so thin that their electrical performance characteristics are as critical as their physical characteristics in determining overall transistor performance. Our Quantox product line provides non-contact, inline electrical performance measurements of key parameters that determine the quality of advanced gate dielectric films, including contamination and oxide thickness, as well as electrical capacitance and leakage. Our latest Quantox XP system provides information on both the physical and electrical properties of advanced gate dielectric materials. Quantox data from the gate dielectric has shown high correlation to electrical test data on the finished device. This correlation enables chipmakers to predict transistor performance inline, rather than having to wait until an end-of-line electrical test a process that normally takes days or weeks to complete.

Implant Metrology

KLA-Tencor now offers implant and anneal micro-uniformity monitoring with the Therma-Probe® solution. Therma-Probe is the industry standard for implant dose metrology. With its advances in modulated optical reflectance, Therma-Probe provides dose measurements for in-line monitoring, including anneal and ultra-shallow junction (USJ) depth profiling. The system contributes to higher yield by monitoring for process excursions.

Substrate & Surface Metrology

At the 45nm node and below, small deviations in wafer shape such as bow, warp and edge roll-off can translate to intolerable errors in the IC s critical dimensions and layer-to-layer alignment. With our acquisition of ADE Corporation, we are well positioned to provide the wafer shape metrology equipment required by both wafer and IC manufacturers, for the 45nm node and beyond.

WaferSight and NanoMapper are high-precision surface mapping systems for bare wafers, based on optical interferometry. The WaferSight system measures full-wafer dimensional parameters such as flatness, bow and thickness. These measurements are made on every advanced bare wafer shipped to fabs, to ensure it meets the stringent requirements of advanced lithography and chemical mechanical polishing (CMP). NanoMapper provides whole-wafer nanotopography measurements for polished wafer surfaces with sub-nanometer height sensitivity. NanoMapper also includes interactive 3D graphics and analysis software, allowing rapid visualization and quantification of nanotopography effects, for faster process development and precision process control during production.

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In substrate and media manufacturing, we offer metrology and defect inspection solutions with our Candela and ADE series of optical and magnetic inspection systems. Our Candela 6100 and 6300 series patented X-beam optical surface analyzers are the industry leaders in defect sensitivity and characterization for substrate and media manufacturing. Those products are now complemented by certain products that we acquired from ADE, such as the MicroXam and OptiFLAT optical interferometers for disk flatness and waviness metrology, as well as the magnetic products that provide critical metrology for perpendicular magnetic recording process control, including the Diskmapper® M3.

Our stylus profilers measure the surface topography of films and etched surfaces, and are used in basic research and development as well as semiconductor production and quality control. We also offer the P-16+ benchtop contact stylus profiler, designed for automated step height, surface contour, waviness and roughness measurements, with detailed 2D and 3D topographic analysis of a variety of surfaces and materials.

Process Metrology Systems

KLA-Tencor now offers specialized, instrumented substrates that measure a wafer s response to the process inside the process chamber, while the process is occurring. These metrology wafers measure the temperature variation of the process over time, to optimize, troubleshoot and monitor complex processes, such as plasma etch. Other measurement parameters are also available, including plasma monitoring. Both chipmakers and process equipment manufacturers use these wafers to visualize, diagnose and control their processes and process tools in a wide variety of applications.

Services

KLA-Tencor enables customers to maximize the performance and productivity of their metrology and inspection systems over the entire life cycle of a tool. We deliver yield management expertise spanning all technology nodes, and collaborate with customers to determine the best products and services to meet technology requirements and optimize cost of ownership. We help customers meet their production goals by maximizing tool uptime and performance with a menu of support services, unique expertise from local service engineers, worldwide spares and consumables depots, and round-the-clock tech support experts in our Online Support Centers accessed through our iSupport secure network. KLA-Tencor s Technology Engagement Services (TES) collaborates with customers to use effective recipes to improve baseline performance and avoid costly process errors, as well as extend the life of their installed base and determine when new tools and upgrades would be beneficial.

Software and Other

Our productivity and analysis solutions translate inspection and metrology data into consolidated information that can reveal process problems and help semiconductor manufacturers develop long-term yield improvement strategies.

Yield Management & Analysis Solutions

Klarity Defect® is an automated inline defect analysis module and defect data management system designed to help fabs achieve faster yield learning cycles. By identifying excursions in real time, Klarity Defect enables fabs to embed expert decision-making processes within analysis recipes. These processes are automatically triggered when user-specified events occur. In addition to freeing fab engineers from repetitive analysis tasks, this capability dramatically improves fab operating efficiency by providing relevant information in less time and with less effort for faster identification of yield problems.

Our Klarity ACE yield analysis solution enables fast integration, correlation and analysis of yield- and process-related data to accurately determine the source of defects and process excursions. It can differentiate between random and systematic yield problems, providing users with the data they need in order to take appropriate corrective measures.

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Klarity SSA (Spatial Signature Analysis) provides automated classification and root cause analysis of spatial signatures defect clusters and patterns that indicate a potential out-of-spec process or process tool problem. Klarity SSA can be utilized for a variety of applications where enhanced excursion detection is needed, including process line and tool monitoring, as well as engineering analysis.

FabVision is a real-time, fab-wide data management system that continuously monitors, reports and manages product quality information. Alerts on process excursions, daily reports and selected data are generated and sent automatically worldwide to better manage operations at the fab, process or customer level. The integrated database enables quick analysis and response to customers inquiries about product history and quality. With real-time production information, the FabVision system provides management, engineering and operations with the capability to proactively detect process excursions that can lead to yield loss.

Our ProDATA lithography data analysis tool, along with our PROLITH lithography and etch optimization tool, helps manufacturers reduce their advanced lithography development time and cost, as well as optimize their design-for-manufacturing (DFM) efforts.

Our iDO (inline Defect Organizer) automated defect classification (ADC) solution provides consistent and accurate classification of yield-limiting defects to help our customers accelerate their ramp to higher process yields. iDO uses an intuitive decision-tree format to split classification into a series of logical steps. Leveraging local defect geometry for improved performance, iDO works with KLA-Tencor defect inspection, review and data analysis systems for excursion monitoring, excursion problem resolution, and baseline yield improvement.

Our Archer Analyzer software provides critical post processing of overlay data into information which indicates appropriate corrective action for the relevant process tool. This function is increasing in importance with sub-65nm design rules, immersion lithography and double patterning lithography.

Computational Lithography

As customers move to smaller design rules, they must print very small features and complex patterns. The resolution required to create these features is more than today s lithography scanners can provide directly, because the features are smaller than the wavelength of the light used to create them. In order to increase the effective resolution of the process, our customers are using reticle enhancement techniques (RETs) such as Optical Proximity Correction (OPC) and Sub-Resolution Assist Features (SRAF).

Introduced in May 2007, our LithoWare lithography optimization tool analyzes design layout constraints, as well as the manufacturing process variability of focus and exposure during lithography. Systematic errors in these areas can create either open circuits that translate to electrical failures, or geometric variations that result in speed and performance issues within the device. LithoWare is designed to reduce the time and cost required to develop RET and OPC processes.

Customers

To support our growing, global customer base, we maintain a significant presence throughout the United States, Europe, Asia-Pacific and Japan, staffed with local sales and applications engineers, customer and field service engineers and yield management consultants. We count among our largest customers the leading semiconductor manufacturers from each of these regions. In the fiscal years ended June 30, 2007, 2006 and 2005, no customer accounted for more than 10% of our total revenues.

Our business depends upon the capital expenditures of semiconductor manufacturers, which in turn is driven by the current and anticipated market demand for ICs and products utilizing ICs. We do not consider our business to be seasonal in nature, but it is cyclical with respect to the capital equipment procurement practices of semiconductor manufacturers, and it is impacted by the investment patterns of such manufacturers in different global markets. Downturns in the semiconductor industry or slowdowns in the worldwide economy could have a material adverse effect on our future business and financial results.

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Sales, Service and Marketing

Our sales, service and marketing efforts are aimed at building long-term relationships with our customers. We focus on providing a single and comprehensive resource for the full breadth of process control and yield management products and services. Customers benefit from the simplified planning and coordination, as well as the increased equipment compatibility, that are realized as a result of dealing with a single supplier. Our revenues are derived primarily from product sales, mostly through our direct sales force.

We believe that the size and location of our field sales, service and applications engineering, and marketing organizations represent a competitive advantage in our served markets. We have direct sales forces in the United States, Europe, Asia-Pacific and Japan. We maintain an export compliance program that is designed to fully meet the requirements of the United States Departments of Commerce and State.

As of June 30, 2007, we employed approximately 2,500 sales and related personnel, service engineers and applications engineers. In addition to sales and service offices in the United States, we conduct sales, marketing and services out of wholly-owned subsidiaries or branches of United States subsidiaries in other countries, including China, France, Germany, India, Israel, Italy, Japan, Malaysia, Singapore, South Korea, Taiwan, Thailand and the United Kingdom. International revenues accounted for approximately 76.3%, 79.9%, and 76.3% of our total revenues in the fiscal years ended June 30, 2007, 2006 and 2005, respectively. Additional information regarding our revenues from foreign operations for our last three fiscal years can be found in Note 14, Segment Reporting and Geographic Information to the Consolidated Financial Statements.

We believe that sales outside the United States will continue to be a significant percentage of our total revenues. Our future performance will depend, in part, on our ability to continue to compete successfully in Asia, one of the largest markets for our equipment. Our ability to compete in this area is dependent upon the continuation of favorable trading relationships between countries in the region and the United States, and our continuing ability to maintain satisfactory relationships with leading semiconductor companies in the region.

International sales and operations may be adversely affected by the imposition of governmental controls, restrictions on export technology, political instability, trade restrictions, changes in tariffs and the difficulties associated with staffing and managing international operations. In addition, international sales may be adversely affected by the economic conditions in each country. The revenues from our international business may also be affected by fluctuations in currency exchange rates. Although we attempt to manage the currency risk inherent in non-dollar sales through hedging activities, there can be no assurance that such efforts will be adequate. These factors could have a material adverse effect on our future business and financial results.

Backlog

Our backlog for system shipments and associated warranty totaled $1,060.8 million and $998.7 million as of June 30, 2007 and 2006, respectively. We include in our backlog only those customer orders for which we have accepted purchase orders and assigned shipment dates within twelve months from the date of order. Orders for service and unreleased products are excluded from the backlog. We expect to fill the present backlog of orders during fiscal year 2008; however, all orders are subject to cancellation or delay by the customer. Due to possible customer changes in delivery schedules or cancellation of orders, our backlog at any particular date is not necessarily indicative of actual sales for any succeeding period.

Research and Development

The market for yield management and process monitoring systems is characterized by rapid technological development and product innovation. These technical innovations are inherently complex and require long development cycles and appropriate professional staffing. We believe that continued and timely development of new products and enhancements to existing products are necessary to maintain our competitive position.

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Accordingly, we devote a significant portion of our human and financial resources to research and development programs and seek to maintain close relationships with customers to remain responsive to their needs. As part of our customer relationships, we may enter into certain strategic development and engineering programs whereby our customers offset certain of our research and development costs. As of June 30, 2007, we employed approximately 1,300 research and development personnel.

Our key research and development activities during fiscal year 2007 involved development of process control and yield management equipment for sub-65nm processing. For information regarding our research and development expenses during the last three fiscal years, including costs offset by our strategic development and engineering programs, see Item 7, Management s Discussion and Analysis of Financial Condition and Results of Operations in this Annual Report on Form 10-K.

In order to make continuing developments in the semiconductor industry, we are committed to significant engineering efforts toward both product improvement and new product development. New product introductions may contribute to fluctuations in operating results, since customers may defer ordering existing products. If new products have reliability or quality problems, those problems may result in reduced orders, higher manufacturing costs, delays in acceptance of and payment for new products, and additional service and warranty expenses. There can be no assurance that we will successfully develop and manufacture new products, or that new products introduced by us will be accepted in the marketplace. If we do not successfully introduce new products, our results of operations will be adversely affected.

Manufacturing, Raw Materials and Supplies

We perform system design, assembly and testing in-house and utilize an outsourcing strategy for the manufacture of components and major subassemblies. Our in-house manufacturing activities consist primarily of assembling and testing components and subassemblies that are acquired through third-party vendors and integrating those subassemblies into our finished products. Our principal manufacturing activities take place in San Jose and Milpitas, California, with additional significant operations in Migdal Ha Emek, Israel and Northtech, Singapore. As of June 30, 2007, we employed approximately 1,000 manufacturing personnel.

Many of the parts, components and subassemblies (collectively parts) that we use are standard commercial products, although certain parts are made to our specifications. We use numerous vendors to supply parts for the manufacture and support of our products. Although we make reasonable efforts to ensure that these parts are available from multiple suppliers, this is not always possible and certain parts included in our systems may be obtained only from a single supplier or a limited group of suppliers. We endeavor to minimize the risk of production interruption by selecting and qualifying alternative suppliers for key parts, by monitoring the financial condition of key suppliers, and by ensuring adequate inventories of key parts are available to maintain manufacturing schedules.

Although we seek to reduce our dependence on sole and limited source suppliers, in some cases the partial or complete loss of certain of these sources could disrupt scheduled deliveries to customers, damage customer relationships and have a material adverse effect on our results of operations.

Competition

The worldwide market for process control and yield management systems is highly competitive. In each of our product markets, we face competition from established and potential competitors, some of which may have greater financial, research, engineering, manufacturing and marketing resources than we have, such as Applied Materials, Inc. and Hitachi Electronics Engineering Co., Ltd. We may also face future competition from new market entrants from other overseas and domestic sources. We expect our competitors to continue to improve the design and performance of their current products and processes and to introduce new products and processes with

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improved price and performance characteristics. We believe that to remain competitive, we will require significant financial resources to offer a broad range of products, to maintain customer service and support centers worldwide, and to invest in product and process research and development.

Significant competitive factors in the market for process control and yield management systems include system performance, ease of use, reliability, installed base and technical service and support. We believe that, while price and delivery are important competitive factors, the customers overriding requirement is for systems that easily and effectively incorporate automated and highly accurate inspection and metrology capabilities into their existing manufacturing processes to enhance productivity.

Management believes that we are well positioned in the market with respect to both our products and services. However, any loss of competitive position could negatively impact our prices, customer orders, revenues, gross margins and market share, any of which would negatively impact our operating results and financial condition.

Acquisitions and Alliances

We continuously evaluate strategic acquisitions and alliances to expand our technologies, product offerings and distribution capabilities. Acquisitions involve numerous risks, including management issues and costs in connection with integration of the operations, technologies and products of the acquired companies, possible write-downs of impaired assets, and the potential loss of key employees of the acquired companies. The inability to manage these risks effectively could negatively impact our operating results and financial condition. Additional information regarding our business combinations during the fiscal year ended June 30, 2007 can be found in Note 5, Business Combinations to the Consolidated Financial Statements.

Patents and Other Proprietary Rights

We protect our proprietary technology through reliance on a variety of intellectual property laws, including patent, copyright and trade secret. We have filed and obtained a number of patents in the United States and abroad and intend to continue pursuing the legal protection of our technology through intellectual property laws. In addition, from time to time we acquire license rights under United States and foreign patents and other proprietary rights of third parties.

Although we consider patents and other intellectual property significant to our business, due to the rapid pace of innovation within the process control and yield management systems industry, we believe that our protection through patent and other intellectual property rights is less important than factors such as our technological expertise, continuing development of new systems, market penetration, installed base and the ability to provide comprehensive support and service to customers worldwide.

No assurance can be given that patents will be issued on any of our applications, that license assignments will be made as anticipated, or that our patents, licenses or other proprietary rights will be sufficiently broad to protect our technology. No assurance can be given that any patents issued to or licensed by us will not be challenged, invalidated or circumvented or that the rights granted thereunder will provide us with a competitive advantage. In addition, there can be no assurance that we will be able to protect our technology or that competitors will not be able to independently develop similar or functionally competitive technology.

Employees

As of June 30, 2007, we employed approximately 6,000 people. None of our employees are represented by a labor union. We have not experienced work stoppages and believe that our employee relations are good.

Competition is intense in the recruiting of personnel in the semiconductor and semiconductor equipment industry. We believe that our future success will depend, in part, on our continued ability to hire and retain qualified management, marketing and technical employees.

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ITEM 1A. RISK FACTORS

Our operating results and stock price have varied widely in the past, and our future operating results will continue to be subject to quarterly variations based upon numerous factors, including those listed in this section and throughout this Annual Report on Form 10-K. Our stock price will continue to be subject to daily variations as well. In addition, our future operating results and stock price may not follow any past trends.

We believe the factors that could make our results fluctuate and difficult to predict include:

- the cyclical nature of the semiconductor equipment industry;
- global economic uncertainty;
- competitive pressures;
- our ability to develop and implement new technologies and introduce new products;
- our ability to maintain supply of key components;
- our ability to manage our manufacturing requirements;
- our reliance on services provided by third parties;
- our customers acceptance and adoption of our new products and technologies;
- our ability to protect our intellectual property;
- litigation regarding intellectual property and other business matters;
- our ability to attract, retain and replace key employees;
- our ability to manage risks associated with acquisitions and alliances;
- the amount of resources we are required to devote to compliance with securities laws and listing requirements;
- worldwide political instability;

earthquake and other uninsured risks;

future changes in accounting and tax standards or practices;

changing legal and regulatory environment;

our exposure to fluctuations in foreign currency exchange rates;

our ability to successfully modify new systems and guard against computer viruses; and

our ability to continue to successfully address and resolve all issues arising from the discovery that we had retroactively priced stock options (primarily from July 1, 1997 to June 30, 2002) and had not accounted for them correctly.

Operating results also could be affected by sudden changes in customer requirements and other economic conditions affecting customer demand and the cost of operations in one or more of the global markets in which we do business. As a result of these or other factors, we could fail to achieve our expectations as to future revenue, gross profit and income from operations. Our failure to meet the performance expectations set and published by external sources could result in a sudden and significant drop in the price of our stock, particularly on a short-term basis, and could negatively affect the value of any investment in our stock.

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Risks Associated with Our Industry and Market Conditions

The semiconductor equipment industry is highly cyclical. The purchasing decisions of our customers are highly dependent on the economies of both the local markets in which they are located and the semiconductor industry worldwide. If we fail to respond to industry cycles, our business could be seriously harmed.

The timing, length and severity of the up-and-down cycles in the semiconductor equipment industry are difficult to predict. This cyclical nature of the industry in which we operate affects our ability to accurately predict future revenue and, thus, future expense levels. When cyclical fluctuations result in lower than expected revenue levels, operating results may be adversely affected and cost reduction measures may be necessary in order for us to remain competitive and financially sound. During a down cycle, we must be in a position to adjust our cost and expense structure to prevailing market conditions and to continue to motivate and retain our key employees. In addition, during periods of rapid growth, we must be able to increase manufacturing capacity and personnel to meet customer demand. We can provide no assurance that these objectives can be met in a timely manner in response to industry cycles.

Our business is ultimately driven by the global demand for electronic devices by consumers and businesses. A majority of our annual revenue is derived from outside the United States, and we expect that international revenue will continue to represent a substantial percentage of our revenue. A protracted global economic slowdown may adversely affect our business and results of operations.

A majority of our annual revenue is derived from outside the United States, and we expect that international revenue will continue to represent a substantial percentage of our revenue. Our international revenue and operations are affected by economic conditions specific to each country and region. Because of our significant dependence on international revenue, a decline in the economies of any of the countries or regions in which we do business could negatively affect our operating results. Managing global operations and sites located throughout the world presents challenges associated with, among other things, cultural diversity and organizational alignment. Moreover, each region in the global semiconductor equipment market exhibits unique characteristics that can cause capital equipment investment patterns to vary significantly from period to period. Periodic local or international economic downturns, trade balance issues, political instability, legal or regulatory changes or terrorism in regions where we have operations along with fluctuations in interest and currency exchange rates could negatively affect our business and results of operations. Although we attempt to manage near-term currency risks through the use of hedging instruments, there can be no assurance that such efforts will be adequate.

Our future performance depends, in part, upon our ability to continue to compete successfully worldwide.

Our industry includes large manufacturers with substantial resources to support customers worldwide. Some of our competitors are diversified companies with greater financial resources and more extensive research, engineering, manufacturing, marketing and customer service and support capabilities than we possess. We face competition from companies whose strategy is to provide a broad array of products and services, some of which compete with the products and services that we offer. These competitors may bundle their products in a manner that may discourage customers from purchasing our products, including pricing such competitive tools significantly below our product offerings. In addition, we face competition from smaller emerging semiconductor equipment companies whose strategy is to provide a portion of the products and services that we offer, using innovative technology to sell products into specialized markets. Loss of competitive position could negatively affect our prices, customer orders, revenue, gross margins, and market share, any of which would negatively affect our operating results and financial condition.

Risks Related to Our Business

If we do not develop and introduce new products and technologies in a timely manner in response to changing market conditions or customer requirements, our business could be seriously harmed.

Success in the semiconductor equipment industry depends, in part, on continual improvement of existing technologies and rapid innovation of new solutions. For example, the size of semiconductor devices continues to

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shrink and the industry is currently transitioning to the use of new materials and innovative fab processes. While we expect these trends will increase our customers reliance on our diagnostic products, we cannot be sure that they will directly improve our business. These and other evolving customer needs require us to respond with continued development programs and to cut back or discontinue older programs, which may no longer have industry-wide support. Technical innovations are inherently complex and require long development cycles and appropriate staffing of highly qualified employees. Our competitive advantage and future business success depend on our ability to accurately predict evolving industry standards, to develop and introduce new products that successfully address changing customer needs, to win market acceptance of these new products and to manufacture these new products in a timely and cost-effective manner.

In this environment, we must continue to make significant investments in research and development in order to enhance the performance and functionality of our products, to keep pace with competitive products and to satisfy customer demands for improved performance, features and functionality. Substantial research and development costs typically are incurred before we confirm the technical feasibility and commercial viability of a new product, and not all development activities result in commercially viable products. There can be no assurance that revenue from future products or product enhancements will be sufficient to recover the development costs associated with such products or enhancements. In addition, we cannot be sure that these products or enhancements will receive market acceptance or that we will be able to sell these products at prices that are favorable to us. Our business will be seriously harmed if we are unable to sell our products at favorable prices or if the market in which we operate does not accept our products.

Our business would be harmed if we do not receive sufficient parts to meet our production requirements in a timely and cost-effective manner.

We use a wide range of materials in the production of our products, including custom electronic and mechanical components, and we use numerous suppliers to supply these materials. We generally do not have guaranteed supply arrangements with our suppliers. Because of the variability and uniqueness of customers orders, we do not maintain an extensive inventory of materials for manufacturing. We seek to minimize the risk of production and service interruptions and/or shortages of key parts by selecting and qualifying alternative suppliers for key parts, monitoring the financial stability of key suppliers and maintaining appropriate inventories of key parts. Although we make reasonable efforts to ensure that parts are available from multiple suppliers, key parts may be available only from a single supplier or a limited group of suppliers. Our operating results and business may be adversely impacted if we are unable to obtain parts to meet our production requirements, or if we are only able to do so on unfavorable terms.

Disruption of our manufacturing facilities due to earthquake, flood, other natural catastrophic events or terrorism could result in cancellation of orders or loss of customers and could seriously harm our business.

Most of our manufacturing facilities are located in the United States, with small operations located in Israel and Singapore. Operations at our manufacturing facilities and our assembly subcontractors are subject to disruption for a variety of reasons, including work stoppages, acts of war, terrorism, fire, earthquake, energy shortages, flooding or other natural disasters. Such disruption could cause delays in shipments of products to our customers. We cannot ensure that alternate production capacity would be available if a major disruption were to occur or that, if it were available, it could be obtained on favorable terms.

We outsource a number of services to third-party service providers, which decreases our control over the performance of these functions. Disruptions or delays at our third-party service providers could adversely impact our operations.

We outsource a number of services, including our transportation and logistics management of spare parts, to domestic and overseas third-party service providers. While outsourcing arrangements may lower our cost of operations, they also reduce our direct control over the services rendered. It is uncertain what effect such

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diminished control will have on the quality or quantity of products delivered or services rendered, or our ability to quickly respond to changing market conditions. Disruptions or delays at our third-party service providers due to events such as regional economic, business, environmental or political events, information technology system failures or military actions could adversely impact our operations and our ability to ship products, manage our product inventory or record and report financial and management information on a timely and accurate basis.

Our success is dependent in part on our technology and other proprietary rights. If we are unable to maintain our lead or protect our proprietary technology, we may lose valuable assets and market share.

Our success is dependent in part on our technology and other proprietary rights. We own various United States and international patents and have additional pending patent applications relating to some of our products and technologies. The process of seeking patent protection is lengthy and expensive, and we cannot be certain that pending or future applications will actually result in issued patents or that issued patents will be of sufficient scope or strength to provide meaningful protection or commercial advantage to us. Other companies and individuals, including our larger competitors, may develop technologies and obtain patents relating to our business that are similar or superior to our technology or may design around the patents we own, adversely affecting our business.

We also maintain trademarks on certain of our products and services and claim copyright protection for certain proprietary software and documentation. However, we can give no assurance that our trademarks and copyrights will be upheld or successfully deter infringement by third parties.

While patent, copyright and trademark protection for our intellectual property is important, we believe our future success in highly dynamic markets is most dependent upon the technical competence and creative skills of our personnel. We attempt to protect our trade secrets and other proprietary information through confidentiality and other agreements with our customers, suppliers, employees and consultants and through other security measures. We also maintain exclusive and non-exclusive licenses with third parties for strategic technology used in certain products. However, these employees, consultants and third parties may breach these agreements, and we may not have adequate remedies for wrongdoing. In addition, the laws of certain territories in which we develop, manufacture or sell our products may not protect our intellectual property rights to the same extent as do the laws of the United States. In any event, the extent to which we can protect our trade secrets through the use of confidentiality agreements is limited, and our success will depend to a significant extent on our ability to innovate ahead of our competitors.

We might be involved in intellectual property disputes or other intellectual property infringement claims that may be costly to resolve, prevent us from selling or using the challenged technology and seriously harm our operating results and financial condition.

As is typical in the semiconductor equipment industry, from time to time we have received communications from other parties asserting the existence of patent rights, copyrights, trademark rights or other intellectual property rights which they believe cover certain of our products, processes, technologies or information. Litigation tends to be expensive and requires significant management time and attention and could have a negative effect on our results of operations or business if we lose or have to settle a case on significantly adverse terms. Our customary practice is to evaluate such infringement assertions and to consider whether to seek licenses where appropriate. However, we cannot ensure that licenses can be obtained or, if obtained, will be on acceptable terms or that costly litigation or other administrative proceedings will not occur. The inability to obtain necessary licenses or other rights on reasonable terms, or the instigation of litigation or other administrative proceedings, could seriously harm our operating results and financial condition.

We depend on key personnel to manage our business effectively, and if we are unable to attract, retain and motivate our key employees, our sales and product development could be harmed.

Our employees are vital to our success, and our key management, engineering and other employees are difficult to replace. We generally do not have employment contracts with our key employees. Further, we do not

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maintain key person life insurance on any of our employees. The expansion of high technology companies worldwide has increased demand and competition for qualified personnel. If we are unable to retain key personnel, or if we are not able to attract, assimilate or retain additional highly qualified employees to meet our needs in the future, our business and operations could be harmed.

Acquisitions are an important element of our strategy but, because of the uncertainties involved, we may not find suitable acquisition candidates and we may not be able to successfully integrate and manage acquired businesses.

In addition to our efforts to develop new technologies from internal sources, part of our growth strategy is to pursue acquisitions and acquire new technologies from external sources. As part of this effort, we may make acquisitions of, or significant investments in, businesses with complementary products, services and/or technologies. There can be no assurance that we will find suitable acquisition candidates or that acquisitions we complete will be successful. In addition, we may use equity to finance future acquisitions, which would increase our number of shares outstanding and be dilutive to current shareholders.

If we are unable to successfully integrate and manage acquired businesses or if acquired businesses perform poorly, then our business and financial results may suffer. It is possible that the businesses we have acquired, as well as businesses that we may acquire in the future, may perform worse than expected or prove to be more difficult to integrate and manage than expected. In addition, we may lose key employees of the acquired companies. As a result, risks associated with acquisition transactions may give rise to a material adverse effect on our business and financial results for a number of reasons, including:

- we may have to devote unanticipated financial and management resources to acquired businesses;
- we may not be able to realize expected operating efficiencies or product integration benefits from our acquisitions;
- we may have to write-off goodwill or other intangible assets; and
- we may incur unforeseen obligations or liabilities in connection with acquisitions.

Compliance with federal securities laws, rules and regulations, as well as Nasdaq requirements, is becoming increasingly complex, and the significant attention and expense we must devote to those areas may have an adverse impact on our business.

Federal securities laws, rules and regulations, as well as Nasdaq rules and regulations, require companies to maintain extensive corporate governance measures, impose comprehensive reporting and disclosure requirements, set strict independence and financial expertise standards for audit and other committee members and impose civil and criminal penalties for companies and their chief executive officers, chief financial officers and directors for securities law violations. These laws, rules and regulations have increased and will continue to increase the scope, complexity and cost of our corporate governance, reporting and disclosure practices, which could harm our results of operations and divert management s attention from business operations.

We are predominantly uninsured for losses and interruptions caused by terrorist acts and acts of war. If international political instability continues or increases, our business and results of operation could be harmed.

The threat of terrorism targeted at the regions of the world in which we do business, including the United States, increases the uncertainty in our markets. Any act of terrorism which affects the economy or the semiconductor industry could adversely affect our business. Increased international political instability, disruption in air transportation and further enhanced security measures as a result of terrorist attacks, and the continuing instability in the Middle East, may hinder our ability to do business and may increase our costs of operations. Such continuing instability could cause us to incur increased costs in transportation, make such

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transportation unreliable, increase our insurance costs, and cause international currency markets to fluctuate. This same instability could have the same effects on our suppliers and their ability to timely deliver their products. If this international political instability continues or increases, our business and results of operations could be harmed. We are predominantly uninsured for losses and interruptions caused by terrorist acts and acts of war.

We self insure certain risks including earthquake risk. If one or more of the uninsured events occurs, we could suffer major financial loss.

We purchase insurance to help mitigate the economic impact of certain insurable risks; however, certain other risks are uninsurable or are insurable only at significant cost and cannot be mitigated with insurance. An earthquake could significantly disrupt our manufacturing operations, most of which are conducted in California. It could also significantly delay our research and engineering effort on new products, most of which is also conducted in California. We take steps to minimize the damage that would be caused by an earthquake, but there is no certainty that our efforts will prove successful in the event of an earthquake. We self insure earthquake risks because we believe this is a prudent financial decision based on our large cash reserves and the high cost and limited coverage available in the earthquake insurance market. Certain other risks are also self insured either based on a similar cost benefit analysis, or based on the unavailability of insurance. If one or more of the uninsured events occurs, we could suffer major financial loss.

A change in accounting standards or practices or a change in existing taxation rules or practices can have a significant effect on our reported results and may even affect reporting of transactions completed before the change is effective.

New accounting pronouncements and taxation rules and varying interpretations of accounting pronouncements and taxation rules have occurred and may occur in the future. Changes to existing rules or the questioning of current practices may adversely affect our reported financial results or the way we conduct our business.

For example, the adoption of Statement of Financial Accounting Standards (SFAS) No. 123(R), *Share-Based Payment* which required us to measure all employee stock-based compensation awards using a fair value method beginning in fiscal year 2006 and record such expense in our consolidated financial statements, has had a material impact on our consolidated financial statements, as reported under accounting principles generally accepted in the United States of America.

We are exposed to various risks related to the regulatory environments where we perform our operations and conduct our business.

We are subject to various risks related to new, different, inconsistent or even conflicting laws, rules and regulations that may be enacted by legislative bodies and/or regulatory agencies in the countries in which we operate and with which we must comply, including environmental and safety regulations. Changes to existing laws, rules or regulations, including changes that result in inconsistent or conflicting laws, rules or regulations, in the countries in which we operate may adversely affect our reported financial results or the way we conduct our business.

We are exposed to foreign currency exchange rate fluctuations; although we hedge certain currency risks, we may still be adversely affected by changes in foreign currency exchange rates or declining economic conditions in these countries.

We have some exposure to fluctuations in foreign currency exchange rates, primarily the Japanese Yen. We have international subsidiaries that operate and sell our products globally. We routinely hedge these exposures in an effort to minimize the impact of currency rate fluctuations, but these hedges may be inadequate to protect us from currency rate fluctuations. To the extent that these hedges are inadequate, our reported financial results or the way we conduct our business could be adversely affected.

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We are exposed to fluctuations in the market values of our portfolio investments and in interest rates; impairment of our investments could harm our earnings.

Our investment portfolio consists of both corporate and government securities that have a maximum effective maturity of 10 years. The longer the duration of these securities, the more susceptible they are to changes in market interest rates and bond yields. As yields increase, those securities with a lower yield-at-cost show a mark-to-market unrealized loss. We have the ability to realize the full value of all these investments upon maturity. Unrealized losses are due to changes in interest rates and bond yields.

We rely upon certain critical information systems for our daily business operation. Our inability to use or access these information systems at critical points in time could unfavorably impact the timeliness and efficiency of our business operation.

Our global operations are linked by information systems, including telecommunications, the internet, our corporate intranet, network communications, email and various computer hardware and software applications. Despite our implementation of network security measures, our tools and servers are vulnerable to computer viruses, break-ins and similar disruptions from unauthorized tampering with our computer systems and tools located at customer sites. Any such event could have an adverse effect on our business, operating results and financial condition.

We may experience difficulties with our enterprise resource planning (ERP) system and other IT systems. System failure or malfunctioning may result in disruption of operations and the inability to process transactions, and this could adversely affect our financial results.

System failure or malfunctioning could disrupt our ability to timely and accurately process and report key components of our results of operations, financial position and cash flows. Any disruptions or difficulties that may occur in connection with our ERP system or other systems could also adversely affect our ability to complete important business processes such as the evaluation of our internal controls and attestation activities pursuant to Section 404 of the Sarbanes-Oxley Act of 2002. If we encounter unforeseen problems with regard to our ERP system or other systems, our business could be adversely affected.

Risks Related to the Restatement of Our Prior Financial Results

Our efforts to correct past material weaknesses in our internal controls may not have been sufficient, and we may discover additional material weaknesses in our internal controls.

As previously disclosed, the Company has undergone an investigation of the Company s historical stock option practices by the Special Committee of the Company s Board of Directors (for more information regarding the Special Committee investigation and its findings, please refer to Item 3, Legal Proceedings). As a result of that Special Committee investigation and our management s internal review of our historical stock option practices and related matters, we identified past material weaknesses in our internal controls and procedures (see Item 9A, Controls and Procedures). A material weakness is a control deficiency, or combination of them, that results in more than a remote likelihood that a material misstatement in our financial statements will not be prevented or detected. We believe that we have remedied the past material weaknesses in our internal controls and procedures, but there can be no assurance that our corrections were sufficient or fully effective, or that we will not discover additional material weaknesses in our internal controls and procedures in the future.

The Special Committee investigation of our historical stock option practices and the resulting restatements have been time consuming and expensive, and have had a material adverse effect on us.

The Special Committee investigation and the resulting restatement activities have required us to expend significant management time and incur significant accounting, legal and other expenses. In addition, we have established a Special Litigation Committee to oversee the litigation matters that have arisen out of the

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investigation and the restatements, and we cannot predict what additional actions may be required by these Committees. The period of time that will be necessary to resolve these matters is uncertain, and these matters could require significant additional attention and resources.

The ongoing government inquiry relating to our historical stock option practices is time consuming and expensive and could result in injunctions, fines and penalties that may have a material adverse effect on our financial condition, results of operations and cash flow.

On July 25, 2007, we announced that the Company had reached a settlement with the SEC by consenting to the entry of a permanent injunction against future violations of the reporting, books and records, and internal controls provisions of the federal securities laws. The settlement resolves completely the SEC investigation into the Company s historical stock option granting practices. KLA-Tencor was not charged by the SEC with fraud, nor was the Company required to pay any civil penalty, fine or money damages as part of the settlement. While the SEC has completed its investigation, the inquiry by the United States Attorney s Office for the Northern District of California (USAO) into our historical stock option practices is ongoing. We have fully cooperated with the USAO and intend to continue to do so. The period of time necessary to resolve this inquiry is uncertain, and we cannot predict the outcome of this inquiry or whether we will face additional government inquiries, investigations or other actions related to our historical stock option practices. This inquiry may require us to continue to expend significant management time and incur significant legal and other expenses, and could result in criminal actions seeking, among other things, injunctions against the Company and the payment of significant fines and penalties by the Company, which may have a material adverse effect on our financial condition, results of operations and cash flow.

We have been named as a party to a number of shareholder derivative and class action lawsuits relating to our historical stock option practices, and we may be named in additional lawsuits in the future. This litigation could become time consuming and expensive and could result in the payment of significant judgments and settlements, which could have a material adverse effect on our financial condition and results of operations.

In connection with our historical stock option practices and resulting restatements, a number of derivative actions were filed against certain of our current and former directors and officers purporting to assert claims on the Company s behalf. In addition, a number of securities class action complaints were filed against us and certain of our current and former directors and officers seeking damages related to our historical stock option practices and the resulting investigation, inquiries and restatements. There may be additional lawsuits of this nature filed in the future. We cannot predict the outcome of these lawsuits, nor can we predict the amount of time and expense that will be required to resolve these lawsuits. If these lawsuits become time consuming and expensive, or if there are unfavorable outcomes in any of these cases, there could be a material adverse effect on our business, financial condition and results of operations.

Our insurance coverage will not cover our total liabilities and expenses in these lawsuits, in part because we have a significant deductible on certain aspects of the coverage. In addition, subject to certain limitations, we are obligated to indemnify our current and former directors, officers and employees in connection with the investigation of our historical stock option practices and the related litigation and ongoing government inquiry. We currently hold insurance policies for the benefit of our directors and officers, although our insurance coverage may not be sufficient in some or all of these matters. Furthermore, the insurers may seek to deny or limit coverage in some or all of these matters, in which case we may have to self-fund all or a substantial portion of our indemnification obligations.

We are subject to the risks of additional government actions, shareholder lawsuits and other legal proceedings related to our historical stock option practices, the resulting restatements, and the remedial measures we have taken.

It is possible that there may be additional governmental actions, shareholder lawsuits and other legal proceedings brought against us in connection with our historical stock option practices. In addition, we may be

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sued or taken to arbitration by former officers and employees in connection with their stock options, employment terminations and other matters. These proceedings may require us to expend significant management time and incur significant accounting, legal and other expenses, and may divert attention and resources from the operation of our business. These expenditures and diversions, as well as the adverse resolution of any specific lawsuit, could have a material adverse effect on our business, financial condition and results of operations.

Failure to maintain effective internal controls may cause us to delay filing our periodic reports with the SEC, affect our Nasdaq listing, and adversely affect our stock price.

The Securities and Exchange Commission, as directed by Section 404 of the Sarbanes-Oxley Act of 2002, adopted rules requiring public companies to include a report of management on internal control over financial reporting in their annual reports on Form 10-K that contain an assessment by management of the effectiveness of the Company s internal control over financial reporting. In addition, our independent registered public accounting firm must attest to and report on management s assessment of the effectiveness of the internal control over financial reporting. The Company has in prior periods identified certain material weaknesses in its internal control over financial reporting. However, we believe the Company remediated those past material weaknesses, and we have not identified any material weaknesses in our internal control over financial reporting for the fiscal year ended June 30, 2007. Although we review our internal control over financial reporting in order to ensure compliance with the Section 404 requirements, if our independent registered public accounting firm is not satisfied with our internal control over financial reporting or the level at which these controls are documented, designed, operated or reviewed, or if our independent registered public accounting firm interprets the requirements, rules and/or regulations differently from our interpretation, then they may decline to attest to management s assessment or may issue a report that is qualified. This could result in an adverse reaction in the financial marketplace due to a loss of investor confidence in the reliability of our financial statements, which ultimately could negatively impact our stock price.

It may be difficult or costly to obtain director and officer insurance coverage as a result of the issues arising out of our historical stock option practices.

We expect that the issues arising from our previous retroactive pricing of stock options will make it more difficult to obtain director and officer insurance coverage in the future. If we are able to obtain this coverage, it could be significantly more costly than in the past, which would have an adverse effect on our financial results and cash flow. As a result of this and related factors, our directors and officers could face increased risks of personal liability in connection with the performance of their duties. As a result, we may have difficulty attracting and retaining qualified directors and officers, which could adversely affect our business.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

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ITEM 2. PROPERTIES

Information regarding our principal properties as of June 30, 2007 is set forth below:

Location	Type	Principal Use	Square Footage	Ownership
Tucson, AZ	Office and plant	Engineering and Manufacturing	60,000	Owned
Fremont, CA(1)	Office and plant	Research, Engineering, Marketing, Manufacturing, Service and Sales Administration	145,947	Leased
Hayward, CA	Office and plant	Manufacturing	14,150	Leased
Livermore, CA(2)	Office and plant	Training, Service and Engineering	241,252	Owned
Milpitas, CA	Office, plant and warehouse	Research, Engineering, Marketing, Manufacturing, Service and Sales Administration	727,302	Owned
San Diego, CA	Office, plant and warehouse	Research, Engineering, Marketing, Manufacturing and Service	15,600	Leased
San Jose, CA	Office and plant	Research, Engineering and Manufacturing	17,060	Leased
San Jose, CA(2)	Office, plant and warehouse	Corporate Headquarters, Research, Engineering, Marketing, Manufacturing, Service and Sales Administration	603,313	Owned
Santa Clara, CA	Office, plant and warehouse	Research, Engineering, Marketing, Manufacturing and Service	50,400	Leased
Westwood, MA(1)	Office and plant	Research, Engineering, Marketing, Manufacturing and Service	116,908	Leased
Beaverton, OR	Office	Sales and Service	13,075	Leased
Austin, TX	Office	Sales, Service and Research	32,118	Leased
Richardson, TX	Office	Sales and Service	16,818	Leased
Vancouver, WA	Office	Sales and Service	12,782	Leased
Shanghai, China	Office, plant and warehouse	Sales, Service, Engineering and Warehouse	50,354	Leased
Dresden, Germany	Office and warehouse	Sales, Service and Warehouse	12,909	Leased
Chennai, India	Office	Engineering	149,121	Owned
Midgal Ha Emek, Israel	Office and plant	Manufacturing	12,314	Leased
Migdal Ha Emek and Herzliya, Israel	Office and plant	Research, Engineering, Marketing, Manufacturing and Service and Sales Administration	64,584	Owned
Tokyo, Japan	Office	Sales and Service	16,644	Leased
Yokohama, Japan(1)	Office and warehouse	Sales, Service and Warehouse	53,773	Leased

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Location	Type	Principal Use	Square Footage	Ownership
Northtech, Singapore	Office, plant and warehouse	Manfacturing, Sales, Service and Warehouse	45,327	Leased
Serangoon, Singapore(3)	Office and plant	Manufacturing	185,809	Owned
Kyung Ki, South Korea	Office	Sales and Service	15,141	Leased
Hsinchu, Taiwan(1)	Office	Sales and Service	96,529	Leased

(1) Portions of certain properties are sublet or are vacant and marketed to sublease.
(2) Certain properties in San Jose, California and Livermore, California were placed for sale in the fiscal year ended June 30, 2007.
(3) The land on which the Serangoon, Singapore building resides is leased.

As of June 30, 2007, we owned or leased a total of approximately 3.0 million square feet of space worldwide, including the locations listed above and office space for smaller sales and service offices in several locations throughout the world. Our operating leases expire at various times through June 30, 2018 with renewal options at the fair market value for additional periods up to five years. Additional information regarding these leases is incorporated by reference from Note 11, Commitments and Contingencies to the Consolidated Financial Statements. We believe our properties are adequately maintained and suitable for their intended use and that our production facilities have capacity adequate for our current needs, even after giving effect to the sale of certain properties as noted above.

ITEM 3. LEGAL PROCEEDINGS

Special Committee Investigation of Historical Stock Option Practices

On May 22, 2006, the Wall Street Journal published an article about stock option backdating that questioned the stock option practices at several companies, including KLA-Tencor. On May 23, 2006, we received a subpoena from the United States Attorney s Office for the Northern District of California (USAO) and a letter of inquiry from the United States Securities and Exchange Commission (SEC) regarding our stock option practices. Later on May 23, 2006, our Board of Directors appointed a Special Committee composed solely of independent directors to conduct a comprehensive investigation of our historical stock option practices. The Special Committee promptly engaged independent legal counsel and accounting experts to assist with the investigation. The investigation included an extensive review of our historical stock option practices, accounting policies, accounting records, supporting documentation, email communications and other documentation, as well as interviews of a number of current and former directors, officers and employees. On September 27, 2006, the Special Committee reported the bulk of its findings and recommendations to our Board of Directors.

Restatements of Prior Period Consolidated Financial Statements in Previous Filings

On September 28, 2006, we announced that we would have to restate our previously issued financial statements to correct our past accounting for stock options. As a result of the Special Committee investigation, we discovered that certain of our stock options, primarily those granted from July 1, 1997 to June 30, 2002, had been retroactively priced for all employees who received these grants. This means that the option exercise price was not the market price of the option shares on the actual grant date of the option, but instead was a lower market price on an earlier date. The actual grant date when the essential actions necessary to grant the option were completed, including the final determination of the number of shares to be granted to each employee and the exercise price is the correct measurement date to determine the market price of the option shares under the accounting rules in effect at the time. More than 95% of the total in-the-money value (market price on the actual grant date minus exercise price) of all of our retroactively priced options was attributable to those granted from July 1, 1997 to June 30, 2002.

In our Annual Report on Form 10-K for the fiscal year ended June 30, 2006 (filed on January 29, 2007) and our quarterly reports on Form 10-Q for the quarters ended September 30, 2006, December 31, 2006 and

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March 31, 2007 (filed on January 29, 2007, February 9, 2007 and May 7, 2007, respectively), we restated (1) our consolidated financial statements as of and for the fiscal years ended June 30, 2005 and 2004; (2) our selected consolidated financial data as of and for our fiscal years ended June 30, 2005, 2004, 2003 and 2002; and (3) our unaudited quarterly financial data for the first three quarters in our fiscal year ended June 30, 2006 and for all quarters in our fiscal year ended June 30, 2005. All financial information included in this Annual Report on Form 10-K reflects our restatement and does not contain any further restatement.

Findings Leading up to Restatement and Certain Remedial Actions

By October 16, 2006, the Special Committee had substantially completed its investigation. The Special Committee concluded that (1) there was retroactive pricing of stock options granted to all employees who received options, primarily during the periods from July 1, 1997 to June 30, 2002 (less than 15% of these options were granted to executive officers), (2) the retroactively priced options were not accounted for correctly in our previously issued financial statements, (3) the retroactive pricing of options was intentional, not inadvertent or through administrative error, (4) the retroactive pricing of options involved the selection of fortuitously low exercise prices by certain former executive officers, and other former executives may have been aware of this conduct, (5) the retroactive pricing of options involved the falsification of Company records, resulting in erroneous statements being made in financial and other reports previously filed with the SEC, as well as in information previously provided to our independent registered public accounting firm, and (6) in most instances, the retroactive pricing of options violated the terms of our stock option plans. Because virtually all holders of retroactively priced options issued by the Company were not involved in or aware of the retroactive pricing, the Board of Directors decided that we should continue to honor the options that violated the terms of the Company s stock option plans, except in certain individual cases as described below.

The Special Committee concluded that, with a few immaterial exceptions, the retroactive pricing of stock options stopped after June 30, 2002. After that time, there were procedures in place designed to provide reasonable assurance that stock options were priced on the grant date. The Special Committee also concluded that none of our independent directors was involved in or aware of the retroactive pricing of stock options. Based on the Special Committee s report, our Board of Directors concluded that no current members of management were involved in the retroactive pricing of stock options. During its investigation of our historical stock option practices, the Special Committee did not find evidence of any other financial reporting or accounting issues.

As a result of the Special Committee investigation, on October 16, 2006, we terminated our employment relationship and agreement with Kenneth L. Schroeder, and we announced our intent to cancel all outstanding stock options held by Mr. Schroeder that were retroactively priced or otherwise improperly granted. Those options were canceled in December 2006. Mr. Schroeder was the Company s Chief Executive Officer and a member of its Board of Directors from mid-1999 until January 1, 2006, and was a member of the Company s stock option committee from 1994 until December 31, 2005. From January 1, 2006 to October 16, 2006, Mr. Schroeder was employed as a Senior Advisor to the Company. On November 10, 2006, Mr. Schroeder s counsel informed us that Mr. Schroeder contests our right to terminate his employment relationship and agreement and to cancel any of his options. We intend to vigorously defend any claims that may be made by Mr. Schroeder regarding these matters, which could involve a material amount.

Also on October 16, 2006, Stuart J. Nichols, Vice President and General Counsel, resigned. Mr. Nichols and we entered into a Separation Agreement and General Release under which Mr. Nichols outstanding retroactively priced stock options have been re-priced by increasing the exercise price to the market price of the option shares on the actual grant date. Under SFAS No. 123(R), no incremental charge was recognized in the financial statements during the fiscal year ended June 30, 2007.

On October 16, 2006, Kenneth Levy, Founder and Chairman of the Board of Directors of the Company, retired as a director and employee, and was named Chairman Emeritus by our Board of Directors. Mr. Levy and we entered into a Separation Agreement and General Release under which Mr. Levy s outstanding retroactively

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priced stock options have been re-priced by increasing the exercise price to the market price of the option shares on the actual grant date. Under SFAS No. 123(R), no incremental charge was recognized in the financial statements for the fiscal year ended June 30, 2007. Mr. Levy was the Company s Chief Executive Officer from 1975 until mid-1999 (with the exception of mid-1997 to mid-1998), was a member of the Company s Board of Directors from 1975 until his retirement, was Chairman of the Board of Directors from 1999 until his retirement, and was a member of the Company s Stock Option Committee from 1994 until use of that committee was suspended in the fall of 2006.

On December 21, 2006, Jon D. Tompkins resigned as a director of the Company, and we agreed to modify the outstanding options held by Mr. Tompkins (all of which were fully vested) to extend the post-termination exercisability period to December 31, 2007, which is the last day of the calendar year in which those options would have terminated in the absence of such extension. Mr. Tompkins, the Chief Executive Officer of Tencor Instruments before its merger into the Company in mid-1997, was the Company s Chief Executive Officer from mid-1997 to mid-1998, was a member of the Company s stock option committee from mid-1997 until mid-1999, and was a member of the Company s Board of Directors from mid-1997 until his resignation.

Although the Board of Directors concluded that John H. Kispert, our President and Chief Operating Officer, was not involved in and was not aware of the improper stock option practices, based on the Special Committee s recommendation, his outstanding retroactively priced options have been re-priced because he served as Chief Financial Officer during part of the period in question. This re-pricing involved increasing the exercise price to the market price of the option shares on the actual grant date. Under SFAS No. 123(R), no incremental charge was recognized in the financial statements during the fiscal year ended June 30, 2007.

Government Inquiries and SEC Settlement Relating to Historical Stock Option Practices

On May 23, 2006, we received a subpoena from the USAO requesting information relating to our past stock option grants and related accounting matters. Also on May 23, 2006, we received a letter from the SEC making an informal inquiry and request for information on the same subject matters. We learned on February 2, 2007 that the SEC had opened a formal investigation into these matters. We cooperated fully with the SEC investigation. On July 25, 2007, we announced that the Company had reached a settlement with the SEC by consenting to the entry of a permanent injunction against future violations of the reporting, books and records, and internal controls provisions of the federal securities laws. The settlement resolves completely the SEC investigation into the Company s historical stock option granting practices. KLA-Tencor was not charged by the SEC with fraud; nor was the Company required to pay any civil penalty, fine, or money damages as part of the settlement.

We are cooperating fully with the USAO s continuing inquiry and intend to continue to do so. This inquiry may require us to expend significant management time and incur significant legal and other expenses, and could result in criminal actions seeking, among other things, injunctions against the Company and the payment of significant fines and penalties by the Company, which may adversely affect our results of operations and cash flow.

We have also responded to inquiries from the U.S. Department of Labor, which is conducting an examination of our 401(k) Savings Plan prompted by our stock option issues. We are cooperating fully with this examination and intend to continue to do so.

We cannot predict how long it will take to or how much more time and resources we will have to expend to resolve these government inquiries, nor can we predict the outcome of these inquiries. Also, there can be no assurance that other inquiries, investigations or actions will not be started by other United States federal or state regulatory agencies or by foreign governmental agencies.

Shareholder Derivative Litigation Relating to Historical Stock Option Practices

Beginning on May 22, 2006, several persons and entities identifying themselves as shareholders of KLA-Tencor filed derivative actions purporting to assert claims on behalf of and in the name of the Company

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against various of our current and former directors and officers relating to our accounting for stock options issued from 1994 to the present. The complaints in these actions allege that the individual defendants breached their fiduciary duties and other obligations to the Company and violated state and federal securities laws in connection with our historical stock option granting process, our accounting for past stock options, and historical sales of stock by the individual defendants. Three substantially similar actions are pending, one in the U.S. District Court for the Northern District of California (which consists of three separate lawsuits consolidated in one action); one in the California Superior Court for Santa Clara County; and one in the Delaware Chancery Court.

The plaintiffs in the derivative actions have asserted claims for violations of Sections 10(b) (including Rule 10b-5 thereunder), 14(a), and 20(a) of the Securities Exchange Act of 1934, unjust enrichment, breach of fiduciary duty and aiding and abetting such breach, negligence, misappropriation of information, abuse of control, gross mismanagement, waste of corporate assets, breach of contract, constructive fraud, rescission, and violations of California Corporations Code section 25402, as well as a claim for an accounting of all stock option grants made to the named defendants. KLA-Tencor is named as a nominal defendant in these actions. On behalf of KLA-Tencor, the plaintiffs seek unspecified monetary and other relief against the named defendants. The plaintiffs are James Ziolkowski, Mark Ziering, Alaska Electrical Pension Fund, Jeffrey Rabin, and Benjamin Langford. The individual named defendants are current directors and officers; Edward W. Barnholt, H. Raymond Bingham, Robert T. Bond, Jeffrey L. Hall, Stephen P. Kaufman, John H. Kispert, Lida Urbanek and Richard P. Wallace; and former directors and officers; Robert J. Boehlke, Leo Chamberlain, Gary E. Dickerson, Richard J. Elkus, Jr., Dennis J. Fortino, Kenneth Levy, Michael E. Marks, Stuart J. Nichols, Arthur P. Schnitzer, Kenneth L. Schroeder and Jon D. Tompkins. Current director David C. Wang and former director Dean O. Morton were originally named as defendants in one of the derivative actions filed in the U.S. District Court for the Northern District of California, but were dropped as named defendants as of December 22, 2006 upon the filing of a consolidated complaint in that action.

The derivative actions are at an early stage. The defendants are not yet required to respond to the complaints in the actions pending in California, and the defendants have moved to dismiss or stay the action pending in Delaware. Our Board of Directors has appointed a Special Litigation Committee (SLC) composed solely of independent directors to conduct an independent investigation of the claims asserted in the derivative actions and to determine the Company s position with respect to those claims. The SLC s investigation is in progress. We cannot predict whether these actions are likely to result in any material recovery by or expense to KLA-Tencor.

Shareholder Class Action Litigation Relating to Historical Stock Option Practices

KLA-Tencor and various of our current and former directors and officers were named as defendants in a putative securities class action filed on June 29, 2006 in the U.S. District Court for the Northern District of California. Two similar actions were filed later in the same court, and all three cases have been consolidated into one action. The consolidated complaint alleges claims under the Securities Exchange Act of 1934 as a result of our past stock option grants and related accounting and reporting, and seek unspecified monetary damages and other relief. The plaintiffs seek to represent a class consisting of purchasers of KLA-Tencor stock between June 30, 2001 and May 22, 2006 who allegedly suffered losses as a result of material misrepresentations in KLA-Tencor s SEC filings during that period. The lead plaintiffs, who seek to represent the class, are the Police and Fire Retirement System of the City of Detroit, the Louisiana Municipal Police Employees Retirement System, and the City of Philadelphia Board of Pensions and Retirement. The defendants are KLA-Tencor, Edward W. Barnholt, H. Raymond Bingham, Robert J. Boehlke, Robert T. Bond, Gary E. Dickerson, Richard J. Elkus, Jr., Jeffrey L. Hall, Stephen P. Kaufman, John H. Kispert, Kenneth Levy, Michael E. Marks, Stuart J. Nichols, Kenneth L. Schroeder, Jon D. Tompkins, Lida Urbanek and Richard P. Wallace.

This litigation is at an early stage. Discovery has not commenced, and the court has not yet determined whether the plaintiffs may sue on behalf of any class of purchasers. The Company and all other defendants filed motions to dismiss these cases in June 2007, which are now pending before the Court. The Company intends to vigorously defend this litigation.

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As part of a derivative lawsuit filed in the Delaware Chancery Court on July 21, 2006 (described above), a plaintiff claiming to be a KLA-Tencor shareholder also asserted a separate putative class action claim against KLA-Tencor and certain of our current and former directors and officers alleging that shareholders incurred damage due to purported dilution of KLA-Tencor common stock resulting from historical stock option granting practices. The Company has moved to dismiss this claim.

We cannot predict the outcome of the shareholder class action cases (described above), and we cannot estimate the likelihood or potential dollar amount of any adverse results. However, an unfavorable outcome in this litigation could have a material adverse impact upon our financial position, results of operations or cash flows for the period in which the outcome occurs and in future periods.

Indemnification Obligations

Subject to certain limitations, we are obligated to indemnify our current and former directors, officers and employees in connection with the investigation of our historical stock option practices and the related litigation and ongoing government inquiry. These obligations arise under the terms of our certificate of incorporation, our bylaws, applicable contracts, and Delaware and California law. The obligation to indemnify generally means that we are required to pay or reimburse the individuals reasonable legal expenses and possibly damages and other liabilities incurred in connection with these matters. We are currently paying or reimbursing legal expenses being incurred in connection with these matters by a number of our current and former directors, officers and employees. Although the maximum potential amount of future payments KLA-Tencor could be required to make under these agreements is theoretically unlimited, we believe the fair value of this liability, to the extent estimable, is appropriately considered within the reserve we have established for currently pending legal proceedings.

Other Legal Matters

We are named from time to time as a party to lawsuits in the normal course of our business. Litigation in general, and intellectual property and securities litigation in particular, can be expensive and disruptive to normal business operations. Moreover, the results of legal proceedings are difficult to predict.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

None.

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PART II

ITEM 5. MARKET FOR THE REGISTRANT S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock is listed and traded on the NASDAQ Global Select Market under the symbol KLAC.

The prices per share reflected in the following table represent the high and low closing prices for our common stock on the NASDAQ Global Select Market for the periods indicated.

	Year ended June 30, 2007		Year ended June 30, 2006	
	High	Low	High	Low
First Fiscal Quarter	$ 46.29	$ 39.05	$ 51.70	$ 43.60
Second Fiscal Quarter	$ 52.43	$ 43.85	$ 54.09	$ 45.52
Third Fiscal Quarter	$ 54.42	$ 46.97	$ 54.18	$ 48.20
Fourth Fiscal Quarter	$ 56.92	$ 53.09	$ 50.39	$ 39.07

During the third quarter of the fiscal year ended June 30, 2005, our Board of Directors approved the initiation of a quarterly cash dividend of $0.12 per share. The total amount of dividends paid during the fiscal year ended June 30, 2007 was $95.1 million. During the first quarter of the fiscal year ending June 30, 2008, our Board of Directors authorized a quarterly cash dividend of $0.15 per share, which was declared on August 8, 2007 and will be paid on September 1, 2007 to our stockholders of record on August 20, 2007.

As of July 31, 2007, there were 758 holders of record of our common stock.

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Equity Repurchase Plans

Following is a summary of stock repurchases for each month during the fourth quarter of the fiscal year ended June 30, 2007:(1)

Period	Total Number of Shares Purchased	Average Price Paid per Share	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs(3)
April 1, 2007 April 30, 2007(2)	350,000	$ 54.77	13,206,500
May 1, 2007 May 31, 2007(2)	350,000	$ 54.76	12,856,500
June 1, 2007 June 30, 2007(2)	120,000	$ 54.55	12,736,500
Purchases under ASR in June 2007(4)	2,031,542	$ 53.52	N/A
Total	2,851,542	$ 53.87	

(1) In July 1997, the Board of Directors authorized KLA-Tencor to systematically repurchase up to 17.8 million shares of its common stock in the open market. This plan was put into place to reduce the dilution from KLA-Tencor s employee benefit and incentive plans such as the stock option and employee stock purchase plans, and to return excess cash to the Company s shareholders. In February 2005, the Board of Directors authorized KLA-Tencor to repurchase up to an additional 10.0 million shares of its common stock under this repurchase plan. All such repurchased shares remain as treasury shares. In February 2007, the Board of Directors authorized KLA-Tencor to repurchase up to an additional 10.0 million shares of its common stock under a new repurchase program (in addition to the 27.8 million shares described in the preceding sentences).

Following the conclusion of the fiscal year covered by this report, in August 2007, the Board of Directors authorized KLA-Tencor to repurchase up to an additional 10.0 million shares of its common stock under the repurchase program (in addition to the 37.8 million shares described in the preceding paragraph).

(2) All shares were purchased pursuant to the publicly announced repurchase programs described in footnote 1 above.

(3) The stock repurchase programs have no expiration date. Our systematic buyback program was suspended in May 2006, and resumed in February 2007. Future repurchases of the Company s common stock under the Company s repurchase programs may be effected through various different repurchase transaction structures, including isolated open market transactions or systematic repurchase plans.

(4) In addition to the above stock repurchases, the Board of Directors authorized a repurchase of up to $750.0 million of the Company s common stock pursuant to an Accelerated Share Repurchase program (ASR) in February 2007. The ASR was completed during the fourth quarter of the fiscal year ended June 30, 2007. Under the ASR, the Company repurchased 14.0 million shares of the Company s common stock at an average price of $53.52 per share of which 2.0 million shares were delivered to the Company in the fourth quarter of the fiscal year ended June 30, 2007.

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ITEM 6. SELECTED FINANCIAL DATA

The following tables include selected consolidated summary financial data for each of our last five fiscal years. This data should be read in conjunction with Item 8, Financial Statements and Supplementary Data, and Item 7, Management s Discussion and Analysis of Financial Condition and Results of Operations in this Annual Report on Form 10-K.

(in thousands, except per share data)

Year ended June 30,	2007	2006	2005	2004	2003
Consolidated Statements of Operations:					
Revenues	$ 2,731,229	$ 2,070,627	$ 2,081,878	$ 1,497,218	$ 1,321,149
Income from operations	$ 589,868	$ 309,791	$ 545,120	$ 243,630	$ 72,090
Net income	$ 528,098	$ 380,452	$ 445,049	$ 212,476	$ 94,024
Dividends paid per share	$ 0.48	$ 0.48	$ 0.12	$	$
Net Income per share:					
Basic	$ 2.68	$ 1.92	$ 2.27	$ 1.09	$ 0.50
Diluted	$ 2.61	$ 1.86	$ 2.21	$ 1.05	$ 0.48

As of June 30,	2007	2006	2005	2004	2003
Consolidated Balance Sheets:					
Cash, cash equivalents and marketable securities	$ 1,710,629	$ 2,325,796	$ 2,195,186	$ 1,876,356	$ 1,487,883
Working capital	$ 2,179,564	$ 2,594,512	$ 2,265,202	$ 1,279,821	$ 1,154,844
Total assets	$ 4,623,249	$ 4,575,911	$ 4,040,603	$ 3,598,880	$ 2,923,930
Stockholders equity	$ 3,550,042	$ 3,567,991	$ 3,096,670	$ 2,680,417	$ 2,263,562

Effective in the fiscal year ended June 30, 2006, we implemented SFAS No. 123(R) *Share-Based Payment*. It requires us to measure all employee stock-based compensation awards using a fair value method and record such expense in our consolidated financial statements.

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ITEM 7. MANAGEMENT S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion of our financial condition and results of operations should be read in conjunction with our Consolidated Financial Statements and the related notes included in Item 8, Financial Statements and Supplementary Data, in this Annual Report on Form 10-K. This discussion contains forward-looking statements, which involve risk and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of certain factors, including but not limited to those discussed in Item 1A, Risk Factors and elsewhere in this Annual Report on Form 10-K. (See Special Note Regarding Forward-Looking Statements.)

Restatements of Prior Period Consolidated Financial Statements in Previous Filings

In our Annual Report on Form 10-K for the fiscal year ended June 30, 2006 (filed on January 29, 2007) and our quarterly reports on Form 10-Q for the quarters ended September 30, 2006, December 31, 2006 and March 31, 2007 (filed on January 29, 2007, February 9, 2007 and May 7, 2007, respectively), we restated (1) our consolidated financial statements as of and for the fiscal years ended June 30, 2005 and 2004; (2) our selected consolidated financial data as of and for our fiscal years ended June 30, 2005, 2004, 2003 and 2002; and (3) our unaudited quarterly financial data for the first three quarters in our fiscal year ended June 30, 2006 and for all quarters in our fiscal year ended June 30, 2005. In those filings, to correct our past accounting for stock options, we recorded total additional pre-tax, non-cash, stock-based compensation expense of $375.7 million for periods from July 1, 1994 to June 30, 2007. All financial information included in this Annual Report on Form 10-K reflects that restatement and does not contain any further restatement.

CRITICAL ACCOUNTING ESTIMATES AND POLICIES

The preparation of our Consolidated Financial Statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions in applying our accounting policies that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. We based these estimates and assumptions on historical experience, and evaluate them on an on-going basis to ensure that they remain reasonable under current conditions. Actual results could differ from those estimates. We discuss the development and selection of the critical accounting estimates with the Audit Committee of our Board of Directors on a quarterly basis, and the Audit Committee has reviewed the Company s related disclosure in this Annual Report on Form 10-K. The items in our financial statements requiring significant estimates and judgments are as follows:

Revenue Recognition. We recognize revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the seller s price is fixed or determinable, and collectibility is reasonably assured. We derive revenue from three sources system sales, spare part sales and service contracts. We typically recognize revenue for system sales upon acceptance by the customer that the system has been installed and is operating according to predetermined specifications. We also recognize revenue prior to written acceptance from the customer, as follows:

When system sales to independent distributors have no installation requirement, contain no acceptance agreement, and 100% payment is due upon shipment, revenue is recognized upon shipment;

When the installation of the system is deemed perfunctory, revenue is recognized upon shipment. The portion of revenue associated with installation is deferred based on estimated fair value, and that revenue is recognized upon completion of the installation;

When the customer fab has already accepted the same tool, with the same specifications, and it can be objectively demonstrated that the tool meets all of the required acceptance criteria upon shipment, revenue is recognized upon shipment. The portion of revenue associated with installation is deferred based on estimated fair value, and that revenue is recognized upon completion of the installation;

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When the customer withholds signature on our acceptance document due to issues unrelated to product performance, revenue is recognized when the system is performing as intended and meets all published and contractually agreed specifications;

When the system is damaged during transit, revenue is recognized upon receipt of cash payment from the customer.

Total revenue recognized without a written acceptance from the customer was approximately 13.5%, 4.4% and 6.6% of total revenues for the fiscal years ended June 30, 2007, 2006 and 2005 respectively. The increase in revenue recognized without a written acceptance is primarily driven by increased shipments of tools that have already met the required acceptance criteria at those customer fabs, and an increase in sales of systems with perfunctory installation. Shipping charges billed to customers are included in system revenue, and the related shipping costs are included in costs of revenues.

Trade-in rights are occasionally granted to customers to trade in tools in connection with subsequent purchases. We estimate the value of the trade-in right and reduce the revenue of the initial sale. This amount is recognized at the earlier of the exercise of the trade-in right or the expiration of the trade-in right.

Spare parts revenue is recognized when the product has been shipped, risk of loss has passed to the customer, and collection of the resulting receivable is probable.

Service and maintenance revenue is recognized ratably over the term of the maintenance contract. Consulting and training revenue is recognized when the related services are performed.

The deferred system profit balance equals the amount of deferred system revenue that was invoiced and due on shipment less applicable product and warranty costs.

We also defer the fair value of non-standard warranty bundled with equipment sales as unearned revenue. Non-standard warranty includes services incremental to the standard 40-hour per week coverage for twelve months. Non-standard warranty is recognized ratably as revenue when the applicable warranty term period commences.

Software is incidental to our products as determined in accordance with AICPA Statement of Position (SOP) No. 97-2, *Software Revenue Recognition* and Emerging Issues Task Force (EITF) Issue No. 03-05, *Applicability of SOP 97-2 to Non-Software Deliverables in an Arrangement Containing More-Than-Incidental Software*. We periodically review the software element of our systems in accordance with SOP No. 97-2 and EITF Issue No. 03-05.

Inventories. Inventories are stated at the lower of cost (on a first-in, first-out basis) or market. Demonstration units are stated at their manufacturing cost, and reserves are recorded to state the demonstration units at their net realizable value. We review the adequacy of our inventory reserves on a quarterly basis.

We review and set standard costs semi-annually at current manufacturing costs in order to approximate actual costs. Our manufacturing overhead standards for product costs are calculated assuming full absorption of forecasted spending over projected volumes, adjusted for excess capacity. Abnormal inventory costs such as costs of idle facilities, excess freight and handling costs, and wasted materials (spoilage) are recognized as current period charges.

We write down inventory based on forecasted demand and technological obsolescence. These factors are impacted by market and economic conditions, technology changes, new product introductions and changes in strategic direction and require estimates that may include uncertain elements. Actual demand may differ from forecasted demand, and such differences may have a material effect on recorded inventory values.

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Warranty. We provide standard warranty coverage on our systems for 40 hours per week for twelve months, providing labor and parts necessary to repair the systems during the warranty period. We account for the estimated warranty cost as a charge to costs of revenues when revenue is recognized. The estimated warranty cost is based on historical product performance and field expenses. Utilizing actual service records, we calculate the average service hours and parts expense per system and apply the labor and overhead rates to determine the estimated warranty charge. We update these estimated charges on a quarterly basis. The actual product performance and/or field expense profiles may differ, and in those cases we adjust our warranty reserves accordingly. The difference between the estimated and actual warranty costs tends to be larger for new product introductions as there is limited or no historical product performance to estimate warranty expense; more mature products with longer product performance histories tend to be more stable in our warranty charge estimates. Non-standard warranty generally includes services incremental to the standard 40-hour per week coverage for twelve months. Non-standard warranty is deferred as unearned revenue and is recognized ratably as revenue when the applicable warranty term period commences. See Note 11, Commitments and Contingencies to the Consolidated Financial Statements for a detailed description.

Allowance for Doubtful Accounts. A majority of our trade receivables are derived from sales to large multinational semiconductor manufacturers throughout the world. In order to monitor potential credit losses, we perform ongoing credit evaluations of our customers financial condition. An allowance for doubtful accounts is maintained for probable credit losses based upon our assessment of the expected collectibility of all accounts receivable. The allowance for doubtful accounts is reviewed on a quarterly basis to assess the adequacy of the allowance. We take into consideration (1) any circumstances of which we are aware of a customer s inability to meet its financial obligations; and (2) our judgments as to prevailing economic conditions in the industry and their impact on our customers. If circumstances change, and the financial condition of our customers are adversely affected and they are unable to meet their financial obligations to us, we may need to take additional allowances, which would result in a reduction of our net income.

Stock-Based Compensation. Beginning July 1, 2005, we have accounted for stock-based compensation using the fair value of stock options based on a Black-Scholes option-pricing model, consistent with the provisions of SFAS No. 123(R), as clarified by Securities and Exchange Commission Staff Accounting Bulletin (SAB) No. 107. We elected to adopt the modified prospective application method as provided by SFAS No. 123(R). Accordingly, during the fiscal years ended June 30, 2006 and 2007, we recorded stock-based compensation expense totaling the amount that would have been recognized had the fair value method been applied under SFAS No. 123 since the effective date of SFAS No. 123 for the grants made prior to the fiscal year ended June 30, 2006, and under SFAS No. 123(R) for the grants made during the fiscal years ended June 30, 2006 and 2007.

SFAS No. 123(R) requires the use of option pricing models that were not developed for use in valuing employee stock options. The Black-Scholes option-pricing model was developed for use in estimating the fair value of short-lived exchange traded options that have no vesting restrictions and are fully transferable. In addition, option-pricing models require the input of highly subjective assumptions, including the option s expected life and the expected price volatility of the underlying stock. The expected stock price volatility assumption was determined using the implied volatility of the Company s common stock. We determined that implied volatility is more reflective of market conditions and a better indicator of expected volatility than a blended volatility. Prior to the adoption of SFAS No. 123(R), we used a combination of historical and implied volatility in deriving the expected volatility assumption.

In November 2005, the Financial Accounting Standards Board (FASB) issued FASB Staff Position No. 123(R)-3 *Transition Election Related to Accounting for Tax Effects of Share-Based Payment Award*s (FSP 123R-3). We have elected not to adopt the alternative transition method provided in the FSP 123R-3 for calculating the tax effects of stock-based compensation pursuant to SFAS No. 123(R). We followed paragraph 81 of SFAS No. 123(R) to calculate the initial pool of excess tax benefits and to determine the subsequent impact on the Additional Paid-in-Capital (APIC) pool and Consolidated Statements of Cash Flows of the tax effects of

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employee stock-based compensation awards that were outstanding upon adoption of SFAS No. 123(R). We have elected to ignore the indirect tax effects of share-based compensation deductions when calculating the windfall benefits and are recognizing the full effect of these deductions in the income statement in the period in which the taxable event occurs. See Note 6, Stock-Based Compensation to the Consolidated Financial Statements for a detailed description.

Contingencies and Litigation. We are subject to the possibility of losses from various contingencies. Considerable judgment is necessary to estimate the probability and amount of any loss from such contingencies. An accrual is made when it is probable that a liability has been incurred or an asset has been impaired and the amount of loss can be reasonably estimated. We accrue a liability and charge operations for the estimated costs expected to be incurred over the next twelve months of adjudication or settlement of asserted and unasserted claims existing as of the balance sheet date. See Item 3, Legal Proceedings and Note 11, Commitments and Contingencies to the Consolidated Financial Statements for a detailed description.

Goodwill and Intangible Assets. As required by SFAS No. 142, *Goodwill and Other Intangible Assets,* goodwill is not amortized but is subject to impairment tests annually, or earlier if indicators of potential impairment exist, using a fair-value-based approach. Purchased technology, patents, trademarks and other intangible assets are presented at cost, net of accumulated amortization. Intangible assets are amortized on a straight line basis which approximates their estimated useful lives and assessed for impairment under SFAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*. Goodwill represents the excess of the purchase price over the fair value of the net tangible and identifiable intangible assets acquired in each business combination. We completed the annual evaluation of the goodwill by reporting unit during the quarter ended December 31, 2006, and concluded that there was no impairment. There have been no significant events or circumstances affecting the valuation of goodwill subsequent to the impairment test performed in the second quarter of the fiscal year ended June 30, 2007.

Income Taxes. We account for income taxes in accordance with SFAS No. 109, *Accounting for Income Taxes*, which requires that deferred tax assets and liabilities be recognized using enacted tax rates for the effect of temporary differences between the book and tax bases of recorded assets and liabilities. SFAS No. 109 also requires that deferred tax assets be reduced by a valuation allowance if it is more likely than not that a portion of the deferred tax asset will not be realized. We have determined that our future taxable income will be sufficient to recover all of our deferred tax assets. However, should there be a change in our ability to recover our deferred tax assets, we could be required to record a valuation allowance against our deferred tax assets. This would result in an increase to our tax provision in the period in which we determined that the recovery was not probable.

On a quarterly basis, we provide for income taxes based upon an estimated annual effective income tax rate. The effective tax rate is highly dependent upon the geographic composition of worldwide earnings, tax regulations governing each region, availability of tax credits and the effectiveness of our tax planning strategies. We carefully monitor the changes in many factors and adjust our effective income tax rate on a timely basis. If actual results differ from these estimates, this could have a material effect on our financial condition and results of operations.

In addition, the calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax regulations. We recognize liabilities for anticipated tax audit issues in the U.S. and other tax jurisdictions based on our best estimate of whether, and the extent to which, additional tax payments are probable. If we ultimately determine that payment of these amounts is unnecessary, we reverse the liability and recognize a tax benefit during the period in which we determine that the liability is no longer necessary. We record an additional charge in our provision for taxes in the period in which we determine that the recorded tax liability is less than we expect the ultimate assessment to be.

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Effects of Recent Accounting Pronouncements.

In February 2007, the FASB issued SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities Including an Amendment of FASB Statement No. 115*, which is effective for the Company in fiscal years beginning July 1, 2008. This statement permits an entity to choose to measure many financial instruments and certain other items at fair value at specified election dates. Subsequent unrealized gains and losses on items for which the fair value option has been elected will be reported in earnings. The Company is currently evaluating the potential impact of this statement on its consolidated financial position, results of operations and cash flows.

In September 2006, the FASB issued SFAS No. 157, *Fair Value Measurements*. SFAS No. 157 defines fair value, establishes a framework for measuring fair value in accordance with generally accepted accounting principles, and expands disclosures about fair value measurements. The provisions of SFAS No. 157 are effective for the Company for fiscal years beginning July 1, 2008. We are evaluating the impact of the provisions of this statement on our consolidated financial position, results of operations and cash flows.

In June 2006, the FASB published FASB Interpretation No. (FIN) 48, *Accounting for Uncertainty in Income Taxes an interpretation of FASB Statement No. 109* which clarifies the accounting for uncertainty in income taxes recognized in an enterprise s financial statements in accordance with SFAS No. 109, *Accounting for Income Taxes*. FIN 48 prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. FIN 48 also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosure, and transition. FIN 48 is effective for our Company in fiscal years beginning July 1, 2007. Any differences between the amounts recognized in the statements of financial position prior to the adoption of FIN 48 and the amounts reported after adoption will be accounted for as a cumulative-effect adjustment recorded to the beginning balance of retained earnings. In addition, the adoption of FIN 48 will result in the reclassification of certain unrecognized tax benefits from current to non-current liabilities in our statement of financial position. We are currently evaluating the potential impact of the implementation of FIN 48 on our consolidated financial position, results of operations and cash flows.

In February 2006, the FASB issued SFAS No. 155, *Accounting for Certain Hybrid Financial Instruments, an amendment of* SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities* and SFAS No. 140, *Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities*. These Statements permit fair value remeasurement for any hybrid financial instrument that contains an embedded derivative that otherwise would require bifurcation. These Statements are effective for all financial instruments acquired or issued after July 1, 2007. The adoption of SFAS No. 155 is not expected to have a material effect on our consolidated financial position, results of operations or cash flows.

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EXECUTIVE SUMMARY

KLA-Tencor Corporation is the world s leading supplier of process control and yield management solutions for the semiconductor and related microelectronics industries. Our comprehensive portfolio of products, services, software and expertise helps integrated circuit manufacturers manage yield throughout the entire fabrication process from research and development to final volume production.

Revenues, income from operations, net income, cash flow from operations, and diluted earnings per share are some of the key indicators we use to monitor our financial condition and operating performance. The following table sets forth some of the key quarterly unaudited financial information which we use to manage our business.

(in thousands, except per share data)	First quarter ended September 30, 2006	Second quarter ended December 31, 2006	Third quarter ended March 31, 2007	Fourth quarter ended June 30, 2007
Revenues	$ 629,363	$ 649,270	$ 716,208	$ 736,388
Total costs and operating expenses	475,373	570,911	533,553	561,524
Income from operations	153,990	78,359	182,655	174,864
Net income	135,922	90,049	154,785	147,342
Net income per share:				
Basic	$ 0.68	$ 0.45	$ 0.78	$ 0.77
Diluted	$ 0.67	$ 0.44	$ 0.76	$ 0.75

(in thousands, except per share data)	First quarter ended September 30, 2005	Second quarter ended December 31, 2005	Third quarter ended March 31, 2006	Fourth quarter ended June 30, 2006
Revenues	$ 484,261	$ 487,682	$ 519,648	$ 579,036
Total costs and operating expenses	409,271	412,688	434,721	504,156
Income from operations	74,990	74,994	84,927	74,880
Net income	75,487	76,605	96,684	131,676
Net income per share:				
Basic	$ 0.38	$ 0.39	$ 0.48	$ 0.66
Diluted	$ 0.37	$ 0.38	$ 0.47	$ 0.65

Industry Trends

As a supplier to the global semiconductor and semiconductor-related industries, we are subject to business cycles, the timing, length and volatility of which can be difficult to predict. The industries we serve have historically been cyclical due to sudden changes in demand and manufacturing capacity. We expect that our customers capital spending on process control to increase over the long term. We believe that this increase in process control spending will be driven by the demand for more precise diagnostics capabilities to address multiple new defects as a result of further shrinking of device feature sizes, the transition to new materials, new devices and circuit architecture, new lithography challenges and fab process innovation. We anticipate that these factors will drive increased demand for our products and services over the coming years. The key drivers for growth in the semiconductor equipment industry in calendar year 2007 are the transition to 65nm design nodes, the increased demand for consumer electronics, and the strength of the flash memory market.

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Revenues and Gross Margin

(in thousands)	Year ended June 30, 2007	2006	2005	FY07 vs. FY06		FY06 vs. FY05	
Revenues:							
Product	$ 2,308,942	$ 1,713,237	$ 1,767,676	$ 595,705	35%	$ (54,439)	-3%
Service	422,287	357,390	314,202	64,897	18%	43,188	14%
Total revenues	$ 2,731,229	$ 2,070,627	$ 2,081,878	$ 660,602		$ (11,251)	
Costs of revenues	$ 1,190,323	$ 942,091	$ 871,000	$ 248,232	26%	$ 71,091	8%
Stock-based compensation expense included in costs of revenues	$ 29,183	$ 29,620	$ 9,167	$ (437)	-1%	$ 20,453	223%
Gross margin percentage	56%	55%	58%	1%		-3%	
Stock-based compensation expense included in costs of revenues as a percentage of total revenues	1%	1%	0%	0%		1%	

Product revenues

Product revenues increased in the fiscal year ended June 30, 2007 primarily as a result of a higher level of orders received due to our customers increased capital spending in the area of process control and yield management. The higher level of customer spending in the fiscal year ended June 30, 2007 was driven by our customers demand for more precise diagnostics capabilities to address multiple new defects as a result of further shrinking of device feature sizes, the transition to new materials, new devices and circuit architecture, new lithography challenges and fab process innovation.

Product revenue was relatively flat in the fiscal year ended June 30, 2006 as compared to the fiscal year ended June 30, 2005.

Service revenues

Service revenues are generated from maintenance service contracts, as well as time and material billable service calls made to our customers after the expiration of the warranty period. Service revenues continued to increase through the three year period disclosed in the table above as our installed base of equipment at our customers sites continued to grow. The amount of service revenues generated is generally a function of the number of post-warranty systems installed at our customers sites and the utilization of those systems.

Revenues by region

Revenues by region for the periods indicated were as follows (in thousands):

	Year ended June 30, 2007		2006		2005	
United States	$ 647,813	24%	$ 416,468	20%	$ 494,250	24%
Europe & Israel	271,814	10%	287,562	14%	266,048	13%
Japan	600,861	22%	541,411	26%	450,240	21%
Taiwan	559,083	20%	363,014	18%	429,672	21%
Korea	288,756	11%	277,316	13%	148,287	7%
Asia Pacific	362,902	13%	184,856	9%	293,381	14%
Total	$ 2,731,229	100%	$ 2,070,627	100%	$ 2,081,878	100%

A significant portion of our revenues continues to be generated in Asia, where a substantial portion of the world s semiconductor manufacturing capacity is located, and we expect that will continue to be the case.

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Gross margin

Our gross margin fluctuates with revenue levels and product mix, and is affected by variations in costs related to manufacturing and servicing our products. The increase in gross margin during the fiscal year ended June 30, 2007 was primarily due to increased revenues and savings realized from our cost reduction initiative during the fiscal year. In addition, the following charges were recorded in the fiscal year ended June 30, 2007:

- $33.9 million for additional amortization of intangibles and fair value adjustment for inventory related to the acquisitions completed as of June 30, 2007, of which $13.8 million was recorded in the fourth quarter of the fiscal year ended June 30, 2007;
- $4.9 million for severance and benefits related to an employee workforce reduction, of which $2.3 million was recorded in the fourth quarter of the fiscal year ended June 30, 2007; and
- An aggregate of $4.7 million for reimbursement of taxes to employees, including management, related to IRC Section 409A and cash payment to employees to compensate them for lost benefits resulting from the suspension of the Company s Employee Stock Purchase Plan (ESPP), which $4.7 million amount was recorded primarily in the second and third quarters of the fiscal year ended June 30, 2007.

The decrease in gross margin during the fiscal year ended June 30, 2006 compared to the fiscal year ended June 30, 2005 was primarily due to our cessation of development work related to CDSEM and stock-based compensation expense recorded during the fiscal year ended June 30, 2006, which contributed 1% and 1%, respectively, to the decrease in gross margin. During the fourth quarter of the fiscal year ended June 30, 2006, we ceased development work on the next generation equipment for CDSEM and incurred charges of $26.5 million resulting from write-offs of related inventory and other liabilities related to the cessation of future development of CDSEM. Although we have ceased future development of CDSEM, we will continue to service previously sold equipment.

Engineering, Research and Development (R&D)

(dollar amounts in thousands)	Year ended June 30,						
	2007	2006	2005	FY07 vs. FY06		FY06 vs. FY05	
R&D expenses	$ 437,513	$ 393,823	$ 351,984	$ 43,690	11%	$ 41,839	12%
Stock-based compensation expense included in R&D expenses	$ 42,431	$ 49,509	$ 12,255	$ (7,078)	-14%	$ 37,254	304%
R&D expenses as a percentage of total revenues	16%	19%	17%	-3%		2%	
Stock-based compensation expense included in R&D expense as a percentage of total revenues	2%	2%	1%	0%		1%	

The increase in R&D expenses during the fiscal year ended June 30, 2007 primarily reflects additional expenses related to the following charges recorded in the fiscal year ended June 30, 2007:

- $17.9 million for in-process research and development (IPR&D) charges and amortization of intangibles associated with the acquisitions that we completed as of June 30, 2007, of which $12.3 million was recorded in fourth quarter of the fiscal year ended June 30, 2007;
- $10.0 million for impairment of certain patents recorded in the fourth quarter of the fiscal year ended June 30, 2007;

An aggregate of $5.8 million for reimbursement of taxes to employees, including management, related to IRC Section 409A and cash payments to employees to compensate them for lost benefits resulting from the suspension of the Company s ESPP, which $5.8 million amount was recorded primarily in the second and third quarters of the fiscal year ended June 30, 2007; and

$4.3 million for severance and benefits related to an employee workforce reduction, of which $2.2 million was recorded in the fourth quarter of the fiscal year ended June 30, 2007.

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The increase in R&D expenses in the fiscal year ended June 30, 2006 compared to the fiscal year ended June 30, 2005 was primarily attributable to increased stock-based compensation expenses due to the implementation of SFAS No. 123(R).

During the fiscal year ended June 30, 2007, we recorded $16.6 million for in-process research and development charges. The fair value of the purchased IPR&D was determined using the income approach, which discounts expected future cash flows from projects to their net present value. Future cash flows were estimated, taking into account the expected life cycles of the products and the underlying technology, relevant market sizes and industry trends. We determined a discount rate for each project based on the relative risks inherent in the project s development horizon, the estimated costs of development, and the level of technological change in the project and the industry, among other factors. IPR&D was expensed upon acquisition because technological feasibility had not been achieved and no future alternative uses existed. The development of these technologies remains a risk due to the remaining efforts to achieve technological feasibility, rapidly changing customer markets, uncertain standards for new products, and significant competitive threats. The nature of the efforts to develop these technologies into commercially viable products consists primarily of planning, designing, experimenting, and testing activities necessary to determine that the technologies can meet market expectations, including functionality and technical requirements.

During the fiscal year ended June 30, 2007, we determined that we would not pursue future development of certain patents initially licensed during fiscal year 2006 for approximately $14.0 million. Since we did not have any alternative use of these patents and we believe the fair value to be $0, the carrying value of $10.7 million was written off. The write off was recorded as $10.0 million to R&D expense and $0.7 million to cost of revenues in the fiscal year ended June 30, 2007.

R&D expenses include the benefit of $12.7 million, $11.4 million and $7.9 million of external funding received during the fiscal years ended June 30, 2007, 2006 and 2005, respectively, for certain strategic development programs primarily from government grants. We expect our R&D expenses to increase in absolute dollars over the next several years as we accelerate our investments in critical programs focusing on new technologies and enhancements to existing products.

Our future operating results will depend significantly on our ability to produce products and provide services that have a competitive advantage in our marketplace. To do this, we believe that we must continue to make substantial investments in our research and development. We remain committed to product development in new and emerging technologies as we address the yield challenges our customers face at future technology nodes.

Selling, General and Administrative (SG&A)

(dollar amounts in thousands)	Year ended June 30,						
	2007	2006	2005	FY07 vs. FY06		FY06 vs. FY05	
SG&A expenses	$ 513,525	$ 424,922	$ 313,774	$ 88,603	21%	$ 111,148	35%
Stock-based compensation expense included in SG&A expenses	$ 37,164	$ 85,613	$ 15,580	$ (48,449)	-57%	$ 70,033	450%
SG&A expenses as a percentage of total revenues	19%	21%	15%	-2%		6%	
Stock-based compensation expense included in SG&A expenses as a percentage of total revenues	1%	4%	1%	-3%		3%	

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The increase in SG&A expenses during the fiscal year ended June 30, 2007 primarily reflects additional charges recorded in SG&A as follows:

- $56.8 million for impairment charges related to the write-down of buildings which was recorded in the second quarter of the fiscal year ended June 30, 2007;
- $11.3 million for severance and related benefits related to an employee workforce reduction, of which $6.1 million was recorded in the fourth quarter of the fiscal year ended June 30, 2007;
- $12.3 million for additional amortization of intangibles related to the acquisitions that we completed as of June 30, 2007, of which $1.7 million is recorded in the fourth quarter of the fiscal year ended June 30, 2007;
- $15.8 million for legal and other expenses related to the stock options investigation, shareholder litigation and related matters which was primarily recorded in the first three quarters of the fiscal year ended June 30, 2007; and
- $8.0 million for reimbursement of taxes to employees, including management, related to IRC Section 409A and cash payments to employees to compensate them for lost benefits from the suspension of the Company s ESPP, which $8.0 million amount was recorded primarily in the second and third quarters of fiscal year ended June 30, 2007.

The cumulative increase in SG&A expenses in the fiscal year ended June 30, 2007 as compared to the fiscal year ended June 30, 2006 was offset in part by a decrease in stock-based compensation expense primarily due to a reversal of $20.3 million in stock-based compensation expense related to our former Chief Executive Officer. In addition, certain options granted in prior years were fully vested in the fiscal year ended June 30, 2007 resulting in lower levels of stock-based compensation expense

In November 2006, as part of our long-term business plan, we deci