

MICRON TECHNOLOGY INC  
Form 10-K  
November 08, 2006

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**FORM 10-K**

(Mark One)

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

For the fiscal year ended August 31, 2006

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 number 1-10658

**Micron Technology, Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**

(State or other jurisdiction of  
incorporation or organization)

**8000 S. Federal Way, Boise, Idaho**

(Address of principal executive offices)

Registrant's telephone number, including area code

**75-1618004**

(IRS Employer  
Identification No.)

**83716-9632**

(Zip Code)

**(208) 368-4000**

Securities registered pursuant to Section 12(b) of the Act:

Title of each class

Common Stock, par value \$.10 per share

Name of each exchange on which registered

New York Stock Exchange

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

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

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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  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) 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.

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

Accelerated Filer

Non-Accelerated Filer

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

The aggregate market value of the voting stock held by non-affiliates of the registrant, based upon the closing price of such stock on March 2, 2006, as reported by the New York Stock Exchange, was approximately \$6.5 billion. Shares of common stock held by each executive officer and director and by each person who owns 5% or more of the outstanding common stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The number of outstanding shares of the registrant's common stock as of November 1, 2006, was 754,409,424.

### **DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the Proxy Statement for registrant's 2006 Annual Meeting of Shareholders to be held on December 5, 2006, are incorporated by reference into Part III of this Annual Report on Form 10-K.

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**PART I****Item 1. Business**

*The following discussion contains trend information and other forward-looking statements that involve a number of risks and uncertainties. Forward-looking statements include, but are not limited to, statements such as those made in Products regarding the Company's expectation regarding sales of DDR and DDR2 products in 2007, continued growth in the NAND Flash and CMOS image sensor markets, significant growth in the sales for NAND Flash memory and CMOS image sensors in future periods and the introduction of new products in 2007; and in Manufacturing regarding the Company's expectation to transition smaller line-width process technologies in 2007. The Company's actual results could differ materially from the Company's historical results and those discussed in the forward-looking statements. Factors that could cause actual results to differ materially include, but are not limited to, those identified in Item 1A. Risk Factors. All period references are to the Company's fiscal periods unless otherwise indicated.*

**Corporate Information**

Micron Technology, Inc., and its subsidiaries (hereinafter referred to collectively as the Company), a Delaware corporation, was incorporated in 1978. The Company's executive offices are located at 8000 South Federal Way, Boise, Idaho 83716-9632 and its telephone number is (208) 368-4000. Information about the Company is available on the internet at [www.micron.com](http://www.micron.com). Copies of the Company's Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as any amendments to these reports, are available through the Company's website as soon as reasonably practicable after they are electronically filed with or furnished to the Securities and Exchange Commission. Also available on the Company's website are its: Corporate Governance Guidelines, Governance Committee Charter, Compensation Committee Charter, Audit Committee Charter and Code of Business Conduct and Ethics. Any amendments or waivers of the Company's Code of Business Conduct and Ethics will also be posted on the Company's website at [www.micron.com](http://www.micron.com) within four business days of the amendment or waiver. Copies of these documents are available to shareholders upon request. Information contained or referenced on the Company's website is not incorporated by reference and does not form a part of this Annual Report on Form 10-K. In February 2006, the Company's Chief Executive Officer certified to the New York Stock Exchange that he was not aware of any violation by the Company of the NYSE's Corporate Governance Listing Standards.

**Overview**

The Company is an industry leading, global manufacturer and marketer of semiconductor devices, principally DRAM and NAND Flash memory and CMOS image sensors. The Company's products are offered in a wide variety of package and configuration options, architectures and performance characteristics tailored to meet application and customer needs. Individual devices take advantage of the Company's advanced silicon processing technology and manufacturing expertise. The Company aims to continually introduce new generations of products that offer lower costs per unit and improved performance characteristics. The Company operates in two segments, Memory and Imaging.

**Memory:** The Memory segment's primary products are DRAM and NAND Flash, which are key components used in a broad array of electronic applications, including personal computers, workstations, network servers, mobile phones, flash memory cards, USB storage devices, MP3 players and other consumer electronics products. The Company sells primarily to original equipment manufacturers, distributors and retailers located around the world.

In 2006, the Company took several steps towards establishing a significant presence in the NAND Flash market. In January 2006, the Company partnered with Intel Corporation (Intel) to form a NAND Flash manufacturing joint venture, IM Flash Technologies, LLC (IMFT), which is a consolidated subsidiary of the Company. IMFT initiated an accelerated build-out and production ramp at two 300mm wafer fabrication facilities that are expected to greatly increase the Company's production of NAND Flash in 2007. Furthering its efforts to increase its share of the NAND market, in June 2006, the Company acquired Lexar Media, Inc. (Lexar), a designer, developer, manufacturer and marketer of Flash memory products, in a stock-for-stock merger. The acquisition of Lexar broadened the Company's NAND product offering, enhanced the Company's retail presence and strengthened its portfolio of intellectual property.



**Imaging:** The Imaging segment's primary products are CMOS image sensors, which are key components used in a broad array of electronic applications, including mobile phones, digital still cameras, webcams and other consumer, security and automotive applications. The Company's primary customers are camera module integrators located around the world. During 2006, the Company introduced several new leading-edge Imaging products and significantly increased its Imaging production, enabling it to become a market leader for CMOS image sensors.

#### **Products**

**Memory:** The Company's Memory segment has two primary product types: DRAM and NAND Flash. Sales of Memory products were 86%, 94% and 98% of the Company's total net sales in 2006, 2005 and 2004, respectively.

**Dynamic Random Access Memory ( DRAM ):** DRAM products are high-density, low-cost-per-bit, random access memory devices that provide high-speed data storage and retrieval. DRAM products were 76%, 87% and 92% of the Company's total net sales in 2006, 2005 and 2004, respectively. The Company offers DRAM products with a variety of performance, pricing and other characteristics. In recent years, the Company has significantly increased its production and sales of specialty memory products such as pseudo-static RAM, Mobile DRAM and Reduced Latency DRAM. Specialty memory products are generally targeted for networking, server and mobile applications that require specific performance characteristics such as low power and low latency. The transition to specialty memory products has reduced the Company's concentration on standardized, high-volume products sold for use as main memory in computers such as Double Data Rate Synchronous DRAM ( DDR ) and DDR2.

**DDR and DDR2:** DDR and DDR2 are standardized, high-density, high-volume, DRAM products that are sold primarily for use as main system memory in computers. DDR and DDR2 products offer high speed and high bandwidth at a relatively low cost compared to other semiconductor memory products. DDR products were 26%, 44% and 57% of the Company's total net sales in 2006, 2005 and 2004, respectively. DDR2 products were 25% and 14% the Company's total net sales in 2006 and 2005, respectively. The Company expects that DDR and DDR2 products will continue to decrease as a percentage of the Company's total net sales in 2007 due to significant increases in sales of the Company's other products.

In response to changes in the DRAM market, the Company has broadened its DDR and DDR2 product offerings in recent years. The Company offers DDR products in 128 megabit ( Mb ), 256 Mb, 512 Mb and 1 gigabit ( Gb ) densities. The Company also offers 256 Mb, 512 Mb, 1 Gb and 2 Gb DDR2 products. The Company expects that these densities will be necessary to meet future customer demands for a broad array of products. The Company also offers its DDR and DDR2 products in multiple configurations, speeds and package types. In September 2006, the Company began sampling a 1 Gb DDR3 device.

**Synchronous DRAM ( SDRAM ):** In 2006 and 2005, SDRAM was primarily used in networking devices, servers, consumer electronics, communications equipment and computer peripherals as well as memory upgrades to legacy computers. Sales of SDRAM products were 16%, 20% and 31% of the Company's total net sales in 2006, 2005 and 2004, respectively. SDRAM sales have declined as personal computer manufacturers have transitioned to DDR and DDR2 products. The decline has been partially offset by increased usage of SDRAM products in other applications. The Company offers 64 Mb, 128 Mb, 256 Mb and 512 Mb SDRAM products.

**Pseudo-static RAM ( PSRAM ):** PSRAM products, marketed by the Company under the proprietary brand name CellularRAM , are DRAM products with an SRAM-like interface. PSRAM combines the minimal power consumption of SRAM with a much lower cost-per-bit to provide an economical alternative to SRAM. PSRAM products are used primarily in cellular phone applications. The Company offers PSRAM products in 16 Mb, 32 Mb, 64 Mb and 128 Mb

densities. The Company is the market leader in sales of PSRAM products. Sales of PSRAM products were 8% and 7% of the Company's total net sales in 2006 and 2005, respectively.

**Mobile DRAM:** Mobile DRAM products are specialty DRAM memory devices designed for applications that demand minimal power consumption, such as personal digital assistants (PDAs), smart phones, GPS devices, digital still cameras and other handheld electronic devices. The Company sells SDRAM and DDR mobile memory products in 64 Mb, 128 Mb, 256 Mb and 512 Mb densities. The Company's mobile DRAM products feature its proprietary Endur-IC technology, which the Company believes provides distinct advantages to its customers in terms of low power, high quality and high reliability.

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**Reduced Latency DRAM ( RLD RAM ):** RLD RAM products are low-latency DRAM memory devices with high clock rates targeted at network applications. The Company offers RLD RAM in 256 Mb and 288 Mb densities and expects to begin shipping 576 Mb densities in 2007.

**NAND Flash Memory:** Flash memory products are electrically re-writable, non-volatile semiconductor devices that retain memory content when power is turned off. The Company's Flash efforts are concentrated on NAND Flash ( NAND ) devices which use semiconductor technology similar to DRAM. NAND is ideal for mass-storage devices due to its faster erase and write times, higher density, and lower cost per bit than NOR Flash, which is the primary competing Flash architecture. The market for NAND products has grown rapidly and the Company expects it to continue to grow due to demand for removable and embedded storage devices. Removable storage devices such as USB and Flash memory cards are used with applications such as personal computers, digital still cameras, MP3 players and mobile phones. Embedded NAND-based storage devices are also utilized in mobile phones and other personal and consumer applications.

NAND and DRAM share common manufacturing processes, enabling the Company to leverage its product and process technologies and manufacturing infrastructure. The Company's NAND designs feature a small cell structure that allows for higher densities for demanding applications. In 2006, the Company offered NAND products in 1 Gb, 2 Gb, 4 Gb and 8 Gb densities and plans to introduce 16 Gb densities in 2007. In 2006, the Company's products were manufactured primarily using 72nm and 90nm line-width process technology and began sampling products manufactured using 50nm line-width process technology. In addition, in 2006, the Company began sampling Multi-Level Cell ( MLC ) NAND products, which double the bit density compared to single level cell products. NAND sales were 6% of the Company's total net sales in 2006. The Company expects sales of NAND to increase significantly in 2007 and 2008 as it ramps production from two 300mm facilities dedicated to NAND production and recognizes sales by its Lexar subsidiary.

As a result of its acquisition of Lexar, the Company began selling in the fourth quarter of 2006 high-performance digital media products and other flash-based storage products through retail and original equipment manufacturing (OEM) channels. The Company's digital media products include a variety of Flash memory cards with a range of speeds, capacities and value-added features. The Company's digital media products also include its JumpDrive products, which are high-speed, portable USB flash drives for consumer applications that serve a variety of uses, including floppy disk replacement, digital media accessories and a variety of connectivity products that link media products to PCs and other electronic host devices. The Company also licenses its patented controller technology to other companies.

The Company offers Flash memory cards in all major media formats currently used by digital cameras and other electronic host devices, including: CompactFlash, Memory Stick, Secure Digital Card and the xD Picture Card. Many of CompactFlash, Memory Stick and Memory Stick PRO products sold by the Company incorporate its patented controller technology. Other products, including Secure Digital Card Flash memory cards and some JumpDrive products, incorporate third party controllers. The Company also resells Flash memory products that are purchased from suppliers. The Company offers Flash memory cards in a variety of speeds and capacities. The Company also offers more advanced features in some Flash media card products that provide additional performance advantages, such as Write Acceleration, or WA technology, the ActiveMemory System and LockTight CompactFlash. The Company sells products under its Lexar brand and also manufactures products that are sold under other brand names. The Company has a multi-year agreement with Eastman Kodak to sell digital media products under the Kodak brand name.

**Imaging:** Complementary Metal-Oxide Semiconductor ( CMOS ) image sensors are the primary product of the Company's Imaging segment. CMOS image sensors are semiconductor devices that capture and process images into pictures or video for a variety of consumer and industrial applications. The Company's CMOS image sensors are used in products such as cellular phone cameras, digital still cameras, pill cameras for medical use, and in automotive and other emerging applications. The Company offers image sensors in a range of pixel resolutions from its VGA (video graphics array) products to its higher resolution 3.1-megapixel products. The Company has begun sampling a

5-megapixel sensor designed for use in digital still cameras and camera phones that it expects to begin shipping in commercial volumes in 2007. In 2006, the Company introduced an 8-megapixel sensor featuring a leading-edge pixel size of 1.75 square microns. Image sensors are sold either as individual components or combined with integrated circuitry to create complete camera system-on-a-chip ( SOC ) solutions.

The Company's CMOS image sensors incorporating its DigitalClarity technology offered many advantages over other CMOS image sensors and charge-coupled device ( CCD ) sensors in 2006, which enabled the Company to become the leader in CMOS image sensor market share. The Company's DigitalClarity technology features active pixels enabling better sensor performance that produces higher-quality images at faster frame rates. The Company's low-leakage DRAM processes are particularly well-suited for the manufacture of CMOS image sensors. The Company's CMOS image sensors consume substantially less power than CCD devices, a critical advantage in battery-dependent portable device applications where most

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image sensors are used. By combining all camera functions on a single chip, from the capture of photons to the output of digital bits, CMOS image sensors reduce the part-count of a digital camera system, which in turn increases reliability, eases miniaturization, and enables on-chip programming of frame size, windowing, exposure and other camera parameters. The Company's CMOS image sensors are also capable of producing high-quality images in low-light conditions. In 2006, the Company's CMOS image sensors' active-pixel design architecture enabled the Company to achieve CMOS imager performance that was comparable to high-end CCD sensors and better than that of its competitor's CMOS image sensors.

Sales of Imaging products were 14%, 6% and 2% of the Company's total net sales in 2006, 2005 and 2004, respectively. The Company expects its sales of CMOS image sensors to continue to grow in 2007 due to strong demand and increases in the allocation of manufacturing capacity. The overall market for image sensors is expected to increase significantly over the next several years due to the growth forecasted for applications such as phone cameras and digital still cameras. Additionally, CMOS image sensors are expected to capture an increasing percentage of the overall image sensor market.

### **Manufacturing**

The Company's manufacturing facilities are located in the United States, Italy, Japan, Puerto Rico and Singapore. The Company's manufacturing facilities generally operate 24 hours per day, 7 days per week. Semiconductor manufacturing is extremely capital intensive, requiring large investments in sophisticated facilities and equipment. Most semiconductor equipment must be replaced every three to five years with increasingly advanced equipment.

The Company's process for manufacturing semiconductor products is complex, involving a number of precise steps, including wafer fabrication, assembly and test. Efficient production of semiconductor products requires utilization of advanced semiconductor manufacturing techniques and effective deployment of these techniques across multiple facilities. The primary determinants of manufacturing cost are die size, number of mask layers, number of fabrication steps and number of good die produced on each wafer. Other factors that contribute to manufacturing costs are wafer size, cost and sophistication of manufacturing equipment, equipment utilization, process complexity, cost of raw materials, labor productivity, package type and cleanliness of the manufacturing environment. The Company is continuously enhancing production processes, reducing die sizes and transitioning to higher density products. In 2006, the Company manufactured most of its DRAM products using its 95 nanometer ( nm ) and 110nm line-width process technology and began transferring production to 78nm line-width process technology. The Company expects to continue to transfer more of its DRAM production to 78nm and lower line-width process technology in 2007. In 2006, the Company manufactured most of its NAND Flash memory products using its 72nm and 90nm line-width process technology. The Company expects to begin transferring its NAND production to 50nm line-width process technology in 2007.

Wafer fabrication occurs in a highly controlled, clean environment to minimize dust and other yield- and quality-limiting contaminants. Despite stringent manufacturing controls, dust particles, equipment errors, minute impurities in materials, defects in photomasks and circuit design marginalities or defects can lead to wafers being scrapped and individual circuits being nonfunctional. Success of the Company's manufacturing operations depends largely on minimizing defects and thereby maximizing yield of high-quality circuits. In this regard, the Company employs rigorous quality controls throughout the manufacturing, screening and testing processes. The Company is able to recover many nonstandard devices by testing and grading them to their highest level of functionality.

After fabrication, silicon wafers are separated into individual die. The Company sells semiconductor products in both packaged and unpackaged (i.e. bare die ) forms. For packaged products, functional die are sorted, connected to external leads and encapsulated in plastic packages. The Company assembles products in a variety of packages, including TSOP (thin small outline package), TQFP (thin quad flat package) and FBGA (fine pitch ball grid array). Bare die products address customer requirements for smaller form factors and higher memory densities and provide superior flexibility. Bare die products are used in packaging technologies such as systems-in-a-package (SIPs) and multi-chip packages (MCPs), which reduce the board area required.

The Company tests its products at various stages in the manufacturing process, performs high temperature burn-in on finished products and conducts numerous quality control inspections throughout the entire production flow. In addition, the Company uses its proprietary AMBYX line of intelligent test and burn-in systems to perform simultaneous circuit tests of DRAM die during the burn-in process, capturing quality and reliability data and reducing testing time and cost.



The Company assembles a significant portion of its memory products into memory modules. Memory modules consist of an array of memory components attached to printed circuit boards ( PCBs ) that insert directly into computer systems or other electronic devices. The Company's Lexar subsidiary contracts with an independent foundry and assembly and testing organizations to manufacture flash media products such as memory cards and USB devices.

In 2006, the Company significantly increased its 300mm wafer production. In 2007, the Company plans to continue increasing its 300mm wafer manufacturing capacity as its IMFT subsidiary ramps NAND Flash production at two 300mm facilities and the Company's consolidated TECH joint venture converts its DRAM production to 300mm wafers.

In recent years the Company has produced an increasingly broad portfolio of products, which enhances the Company's ability to allocate resources to its most profitable products but increases the complexity of the manufacturing process. Although new product lines such as NAND Flash, CMOS image sensors and specialty memory can be manufactured using processes that are very similar to the processes for the Company's predominant DRAM products, frequent conversions to new products and the allocation of manufacturing capacity to more complex, smaller-volume parts can affect the Company's cost efficiency. The Company's ability to competitively manufacture many of these products on existing 200mm lines extends the useful life of this equipment.

**IM Flash Technologies, LLC ( IMFT ):** IMFT, which began operations on January 6, 2006, is a joint venture between the Company and Intel. IMFT manufactures NAND Flash memory products pursuant to NAND Flash designs developed by the Company and Intel and licensed to the Company. The parties share the output of IMFT generally in proportion to their investment in IMFT. The Company owned a 51% interest in IMFT at August 31, 2006. IMFT's financial results are included in the consolidated financial statements of the Company. (See Item 8. Financial Statements and Supplementary Data Notes to Consolidated Financial Statements Joint Ventures IM Flash Technologies, LLC. )

**TECH Semiconductor Singapore Pte. Ltd. ( TECH ):** TECH is a memory manufacturing joint venture in Singapore among Micron Technology, Inc., the Singapore Economic Development Board, Canon Inc. and Hewlett-Packard Company. The Company owned an approximate 43% interest in TECH at August 31, 2006. TECH's semiconductor manufacturing facilities use the Company's product and process technology. Subject to specific terms and conditions, the Company has agreed to purchase all of the products manufactured by TECH. TECH supplied approximately 25%, 25% and 30% of the total megabits of memory produced by the Company in 2006, 2005 and 2004, respectively. TECH's financial results were included in the consolidated financial statements of the Company beginning in the third quarter of 2006. (See Item 8. Financial Statements and Supplementary Data Notes to Consolidated Financial Statements Joint Ventures TECH Semiconductor Singapore Pte. Ltd. )

**MP Mask Technology Center, LLC ( MP Mask ):** In the third quarter of 2006, the Company formed a joint venture, MP Mask, with Photronics, Inc. ( Photronics ) to produce photomasks for leading-edge and advanced next generation semiconductors. The Company contributed its then existing reticle manufacturing operation to the venture and sold a 49.99% interest in MP Mask to Photronics. The Company and Photronics also entered into supply arrangements wherein the Company is expected to purchase a substantial majority of the reticles produced by MP Mask. The financial results of MP Mask are included in the consolidated financial results of the Company.

#### **Availability of Raw Materials**

The Company's production processes require raw materials that meet exacting standards, including several that are customized for, or unique to, the Company. The Company generally has multiple sources of supply; however, only a limited number of suppliers are capable of delivering certain raw materials that meet the Company's standards. Various factors could reduce the availability of raw materials such as silicon wafers, photomasks, chemicals, gases, lead frames, molding compound and other materials. In addition, any transportation problems could delay the Company's receipt of raw materials. Although raw materials shortages or transportation problems have not interrupted the Company's operations in the past, shortages may occur from time to time in the future. Also, lead times for the supply of raw materials have been extended in the past. If the Company's supply of raw materials is interrupted, or lead times are extended, results of operations could be adversely affected.



## Marketing and Customers

The Company's products are sold into computing and consumer, networking and telecommunications, and imaging markets. Approximately 70% of the Company's net sales for 2006 were to the computing market, including desktop PCs, notebooks, servers and workstations. Sales to Hewlett-Packard Company exceeded 10% of the Company's net sales in 2006. Sales to both Hewlett-Packard Company and Dell Computer Corporation exceeded 10% of the Company's net sales in 2005 and 2004, and aggregated 23% and 27% of the Company's net sales in 2005 and 2004, respectively.

The Company markets its semiconductor products primarily through its own direct sales force. The Company maintains inventory at locations in close proximity to certain key customers to facilitate rapid delivery of product shipments. The Company's products are also offered through independent sales representatives and distributors. Lexar sells NAND Flash memory through retail and OEM channels and Crucial Technology offers its products through the Company's web-based customer direct sales division. The Company's products are offered under the Micron, Lexar, SpecTek and Crucial brand names, and under other private labels. The Company maintains sales offices in all of its primary markets around the world. Independent sales representatives obtain orders subject to final acceptance by the Company and are compensated on a commission basis. The Company makes shipments against these orders directly to the customer. Distributors carry the Company's products in inventory and typically sell a variety of other semiconductor products, including competitors' products.

The Company offers products designed to meet the diverse needs of computing, server, automotive, networking, security, commercial/industrial, consumer electronics, medical and mobile applications. Many of the Company's customers require a thorough review or qualification of semiconductor products, which may take several months. As the Company further diversifies its product lines and reduces the die sizes of existing products, more products become subject to qualification which may delay volume introduction of specific devices by the Company.

## Backlog

Volatile industry conditions make customers reluctant to enter into long-term, fixed-price contracts. Accordingly, new order volumes for the Company's semiconductor products fluctuate significantly. Orders are typically accepted with acknowledgment that the terms may be adjusted to reflect market conditions at the date of shipment. Customers can change delivery schedules or cancel orders without significant penalty. For these reasons, the Company does not believe that its order backlog as of any particular date is a reliable indicator of actual sales for any succeeding period.

## Product Warranty

Because the design and manufacturing process for semiconductor products is highly complex, it is possible that the Company may produce products that do not comply with customer specifications, contain defects or are otherwise incompatible with end uses. In accordance with industry practice, the Company generally provides a limited warranty that its products are in compliance with Company specifications existing at the time of delivery. Under the Company's general terms and conditions of sale, liability for certain failures of product during a stated warranty period is usually limited to repair or replacement of defective items or return of, or a credit with respect to, amounts paid for such items. Under certain circumstances the Company may provide more extensive limited warranty coverage and general legal principles may impose more extensive liability than that provided under the Company's general terms and conditions.

## Competition

The Company faces intense competition in the semiconductor memory markets from a number of companies, including Elpida Memory, Inc.; Hynix Semiconductor Inc.; Qimonda AG ADS; Samsung Electronics Co., Ltd; SanDisk Corporation; Toshiba Corporation and emerging companies in Taiwan and China. Some of the Company's competitors are large corporations or conglomerates that may have greater resources to withstand downturns in the semiconductor markets in which the Company competes, invest in technology and capitalize on growth opportunities. The Company's competitors seek to increase silicon capacity, improve yields, reduce die size and minimize mask levels in their product designs. These factors have significantly increased worldwide supply and put downward pressure on prices.



The Company faces competition in the image sensor market from a number of suppliers of CMOS image sensors including MagnaChip Semiconductor Ltd.; OmniVision Technologies, Inc.; Samsung Electronics Co., Ltd; Sony Corporation; STMicroelectronics NV; Toshiba Corporation and from a number of suppliers of CCD image sensors including Matsushita Electric Industrial Co., Ltd.; Sharp Corporation and Sony Corporation. In recent periods, a number of new companies have entered the CMOS image sensor market. Competitors include many large domestic and international companies that may have greater presence in key markets, better access to certain customer bases, greater name recognition and more established strategic and financial relationships than the Company.

### **Research and Development**

To compete in the semiconductor memory industry, the Company must continue to develop technologically advanced products and processes. The Company believes that expansion of its semiconductor product offerings is necessary to meet expected market demand for specific memory and imaging solutions. The Company has several product design centers around the world, the largest located at its corporate headquarters in Boise, Idaho. In addition, the Company develops leading edge photolithography mask technology at its MP Mask joint venture facility in Boise.

Research and development ( R&D ) expenses vary primarily with the number of development wafers processed, the cost of advanced equipment dedicated to new product and process development, and personnel costs. Because of the lead times necessary to manufacture its products, the Company typically begins to process wafers before completion of performance and reliability testing. The Company deems development of a product complete once the product has been thoroughly reviewed and tested for performance and reliability. R&D expenses can vary significantly depending on the timing of product qualification. The Company and Intel share R&D process and design costs for NAND Flash equally. Product development costs are recorded as R&D expense.

The Company's process technology R&D efforts are focused primarily on development of successively smaller line-width process technologies which are designed to facilitate the Company's transition to next generation memory products and CMOS image sensors. Additional process technology R&D efforts focus on specialty memory products (including PSRAM, mobile SDRAM and reduced latency DRAM) and new manufacturing materials. Product design and development efforts are concentrated on the Company's 1 Gb and 2 Gb DDR, DDR2 and DDR3 products as well as high density and mobile NAND Flash memory (including multi-level cell technology), CMOS image sensors and specialty memory products. The Company's R&D expenses were \$656 million, \$604 million and \$755 million in 2006, 2005 and 2004, respectively.

### **Geographic Information**

Sales to customers outside the United States totaled \$3.6 billion for 2006 and included \$1.0 billion in sales to China, \$719 million in sales to Europe, \$494 million in sales to Japan and \$1.1 billion in sales to the rest of the Asia Pacific region, excluding China and Japan. International sales totaled \$3.2 billion for 2005 and \$2.6 billion for 2004. As of August 31, 2006, the Company had net property, plant and equipment of \$4.4 billion in the United States, \$867 million in Singapore, \$269 million in Japan, \$318 million in Italy and \$12 million in other countries.

### **Patents and Licenses**

In recent years, the Company has been recognized as a leader in volume and quality of patents issued. As of August 31, 2006, the Company owned approximately 14,500 U.S. patents and 1,500 foreign patents. In addition, the Company has numerous U.S. and foreign patent applications pending. The Company's patents have terms expiring through 2025.

The Company has a number of patent and intellectual property license agreements. Some of these license agreements require the Company to make one time or periodic payments. The Company may need to obtain additional patent licenses or renew existing license agreements in the future. The Company is unable to predict whether these license agreements can be obtained or renewed on acceptable terms.

## Employees

As of August 31, 2006, the Company had approximately 23,500 employees, including approximately 14,100 in the United States, 5,500 in Singapore, 2,000 in Italy, 1,400 in Japan and 300 in the United Kingdom. The Company's employees include 2,400 employees in its TECH joint venture that are located in Singapore and 800 employees in its IMFT joint venture that are located in the United States. The Company added approximately 300 employees from its acquisition of Lexar Media, Inc. in the fourth quarter of 2006. The Company's employees in Italy are represented by labor organizations that have entered into national and local labor contracts with the Company. The Company's employment levels can vary depending on market conditions and the level of the Company's production, research and product and process development. Many of the Company's employees are highly skilled, and the Company's continued success depends in part upon its ability to attract and retain such employees. The loss of key Company personnel could have a material adverse effect on the Company's business, results of operations or financial condition.

## Environmental Compliance

Government regulations impose various environmental controls on raw materials and discharges, emissions and solid wastes from the Company's manufacturing processes. In 2006, the Company's wafer fabrication facilities continued to conform to the requirements of ISO 14001 certification. To continue certification, the Company met annual requirements in environmental policy, compliance, planning, management, structure and responsibility, training, communication, document control, operational control, emergency preparedness and response, record keeping and management review. While the Company has not experienced any materially adverse effects on its operations from environmental regulations, changes in the regulations could necessitate additional capital expenditures, modification of operations or other compliance actions.

## Directors and Executive Officers of the Registrant

Officers of the Company are appointed annually by the Board of Directors. Directors of the Company are elected annually by the shareholders of the Company. Any directors appointed by the Board of Directors to fill vacancies on the Board serve until the next election by the shareholders. All officers and directors serve until their successors are duly chosen or elected and qualified, except in the case of earlier death, resignation or removal.

As of August 31, 2006, the following executive officers and directors of the Company were subject to the reporting requirements of Section 16(a) of the Securities Exchange Act of 1934, as amended.

Name	Age	Position
Mark W. Adams	42	Vice President of Digital Media Products
Steven R. Appleton	46	Chairman, Chief Executive Officer and President
Kipp A. Bedard	47	Vice President of Investor Relations
Jan du Preez	49	Vice President of Memory Marketing
D. Mark Durcan	45	Chief Operating Officer
Robert J. Gove	53	Vice President of Imaging Group
Jay L. Hawkins	46	Vice President of Operations
Roderic W. Lewis	51	Vice President of Legal Affairs, General Counsel and Corporate Secretary
Michael W. Sadler	49	Vice President of Worldwide Sales
Brian J. Shields	45	Vice President of Worldwide Wafer Fabrication
Brian M. Shirley	37	Vice President Memory
Wilbur G. Stover, Jr.	53	Vice President of Finance and Chief Financial Officer
Teruaki Aoki	65	Director
James W. Bagley	67	Director
Mercedes Johnson	52	Director
Robert A. Lothrop	80	Director
Lawrence N. Mondry	46	Director
Gordon C. Smith	77	Director
Robert E. Switz	60	Director



William P. Weber

66 Director

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*Mark W. Adams* joined the Company in June 2006. From January 2006 until he joined the Company, Mr. Adams was the Chief Operating Officer of Lexar Media, Inc. Mr. Adams served as the Vice President of Sales and Marketing for Creative Labs, Inc. from December 2002 to January 2006. From March 2000 to September 2002, Mr. Adams was the Chief Executive Officer of Coresma, Inc. Mr. Adams holds a BA in Economics from Boston College and an MBA from Harvard Business School.

*Steven R. Appleton* joined the Company in February 1983 and has served in various capacities with the Company and its subsidiaries. Mr. Appleton first became an officer of the Company in August 1989 and has served in various officer positions with the Company since that time. From April 1991 until July 1992 and since May 1994, Mr. Appleton has served on the Company's Board of Directors. Since September 1994, Mr. Appleton has served as the Chief Executive Officer, President and Chairman of the Board of Directors of the Company. Mr. Appleton is a member of the Board of Directors of National Semiconductor Corporation. Mr. Appleton holds a BA in Business Management from Boise State University.

*Kipp A. Bedard* joined the Company in November 1983 and has served in various capacities with the Company and its subsidiaries. Mr. Bedard first became an officer of the Company in April 1990 and has served in various officer positions since that time. Since January 1994, Mr. Bedard has served as Vice President of Investor Relations for the Company. Mr. Bedard holds a BBA in Accounting from Boise State University.

*Jan du Preez* joined the Company in June 2002 as an officer and has served in various officer positions since that time. Mr. du Preez served as the President of Infineon Technologies North America Corporation from August 2000 until he joined the Company in June 2002. From October 1996 through July 2000, Mr. du Preez served as the Vice President of Memory Products Group for Infineon Technologies North America Corporation (formerly Siemens Semiconductors). Mr. du Preez holds Bachelors Degrees in Public Administration and Business Economics from the University of Pretoria and a Masters Degree in Commerce from Rand University.

*D. Mark Durcan* joined the Company in June 1984 and has served in various technical positions with the Company and its subsidiaries since that time. Mr. Durcan was appointed Chief Operating Officer in February 2006. Mr. Durcan has been an officer of the Company since 1996. Mr. Durcan holds a BS and MChE in Chemical Engineering from Rice University.

*Robert J. Gove* joined the Company in March 1999 as Senior Director of Engineering and has served in various positions with the Company. In March 2002, he was appointed Vice President of Imaging. Prior to joining the Company, Dr. Gove served as Vice President, Engineering, of Equator Technologies, Inc. Dr. Gove holds a BS in Electrical Engineering from the University of Washington and an MS in Electrical Engineering and Ph.D. in Electrical Engineering from Southern Methodist University.

*Jay L. Hawkins* joined the Company in March 1984 and has served in various manufacturing positions for the Company and its subsidiaries. Mr. Hawkins served as Vice President, Manufacturing Administration from February 1996 through June 1997, at which time he became Vice President of Operations. Mr. Hawkins holds a BBA in Marketing from Boise State University.

*Roderic W. Lewis* joined the Company in August 1991 and has served in various capacities with the Company and its subsidiaries. Mr. Lewis has served as Vice President of Legal Affairs, General Counsel and Corporate Secretary since July 1996. Mr. Lewis holds a BA in Economics and Asian Studies from Brigham Young University and a JD from

Columbia University School of Law.

*Michael W. Sadler* joined the Company in September 1992 as a Regional Sales Manager and has held various sales and marketing positions since that time. Mr. Sadler became an officer of the Company in July 1997 and has served as Vice President of Worldwide Sales since November 2001. Mr. Sadler holds a BS in Information Systems and an MBA from the University of Santa Clara.

*Brian J. Shields* joined the Company in November 1996 and has served in various operational positions with the Company. Mr. Shields first became an officer of the Company in March 2003.

*Brian M. Shirley* joined the Company in August 1992 and has served in various technical positions with the Company. Mr. Shirley became an officer of the Company in February 2006. Mr. Shirley holds a BS in Electrical Engineering from Stanford University.

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*Wilbur G. Stover, Jr.* joined the Company in June 1989 and has served in various financial positions with the Company and its subsidiaries. Since September 1994, Mr. Stover has served as the Company's Vice President of Finance and Chief Financial Officer. Mr. Stover holds a BA in Business Administration from Washington State University.

*Teruaki Aoki* is President of Sony University and Managing Director of Sony Foundation for Education. Dr. Aoki has been associated with Sony since 1970 and has held various executive positions, including Senior Executive Vice President and Executive Officer of Sony Corporation as well as President and Chief Operating Officer of Sony Electronics, a U.S. subsidiary. Dr. Aoki holds a Ph.D. in Material Sciences from Northwestern University as well as a BS in Applied Physics from the University of Tokyo. He was elected as an IEEE Fellow in 2003 and serves as Advisory Board Member of Kellogg School of Management of Northwestern University.

*James W. Bagley* became the Executive Chairman of Lam Research Corporation (Lam), a supplier of semiconductor manufacturing equipment, in June 2005. From August 1997 through June 2005, Mr. Bagley served as the Chairman and Chief Executive Officer of Lam. Mr. Bagley is a member of the Board of Directors of Teradyne, Inc. He has served on the Company's Board of Directors since June 1996. Mr. Bagley holds a MS and BS in Electrical Engineering from Mississippi State University. Mr. Bagley serves as the presiding director of executive sessions of the Company's Board of Directors.

*Mercedes Johnson* has served as the Senior Vice President and Chief Financial Officer of Avago Technologies Limited, a semiconductor company, since December 2005. Prior to that, she served as the Senior Vice President, Finance, of Lam from June 2004 to January 2005 and as Lam's Chief Financial Officer from May 1997 to May 2004. Before joining Lam, Ms. Johnson spent 10 years with Applied Materials, Inc., where she served in various senior financial management positions, including vice president and worldwide operations controller. Ms. Johnson holds a degree in accounting from the University of Buenos Aires and currently serves on the Board of Directors for Intersil Corporation. Ms. Johnson is the Chairman of the Board's Audit Committee.

*Robert A. Lothrop* served as Senior Vice President of J.R. Simplot Company, an agribusiness company, from January 1986 until his retirement in January 1991. From August 1986 until July 1992 and since May 1994, Mr. Lothrop has served on the Board of Directors of the Company. Mr. Lothrop holds a BS in Engineering from the University of Idaho.

*Lawrence N. Mondry* served as the Chief Executive Officer of CompUSA Inc. from November 2003 to May 2006. Mr. Mondry joined CompUSA in 1990 as Senior Vice President and General Merchandise Manager. He was promoted to Executive Vice President-Merchandising in 1993, and President and Chief Operating Officer of CompUSA Stores in 2000. Mr. Mondry currently serves on the Board of Directors for Golfsmith, Inc. Mr. Mondry is the Chairman of the Board's Compensation Committee.

*Gordon C. Smith* has served as the Chairman and Chief Executive Officer of SFG LLC, a holding company for agriculture operations and other investments, since January 2005. Mr. Smith has also served as Chairman and Chief Executive Officer of G.C. Smith LLC since May 2000. From July 1980 to March 1994, Mr. Smith served in various management positions with J.R. Simplot Company, including four years as President and Chief Executive Officer, and seven years as Chief Financial Officer. From February 1982 until February 1984 and since September 1990, he has served on the Company's Board of Directors. Mr. Smith holds a BS in Accounting from Idaho State University.

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*Robert E. Switz* is currently President and CEO of ADC Telecommunications, Inc., a supplier of network infrastructure products and services. Mr. Switz has been with ADC since 1994 and prior to his current position, served ADC as Executive Vice President and Chief Financial Officer. Mr. Switz holds an MBA from the University of Bridgeport as well as a degree in marketing/economics from Quinnipiac University. Mr. Switz also serves as a director on the board of Broadcom Corporation. Mr. Switz is the Chairman of the Board's Governance Committee.

*William P. Weber* served in various capacities with Texas Instruments Incorporated, a semiconductor manufacturing company, and its subsidiaries from 1962 until April 1998. From December 1986 until December 1993, he served as the President of Texas Instruments' worldwide semiconductor operations and from December 1993 until his retirement in April 1998, he served as Vice Chairman of Texas Instruments Incorporated. He has served on the Company's Board of Directors since July 1998. Mr. Weber holds a BS in Engineering from Lamar University and a MS in Engineering from Southern Methodist University.

There is no family relationship between any director or executive officer of the Company.

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**Item 1A. Risk Factors**

*In addition to the factors discussed elsewhere in this Form 10-K, the following are important factors which could cause actual results or events to differ materially from those contained in any forward- looking statements made by or on behalf of the Company.*

**We have experienced dramatic declines in average selling prices for our semiconductor memory products which have adversely affected our business.**

Per megabit average selling prices for our semiconductor memory products decreased 34% in 2006 as compared to 2005. In recent years, we have also experienced annual decreases in per megabit average selling prices for our memory products including: 24% in 2005, 17% in 2003, 53% in 2002 and 60% in 2001. At times, average selling prices for our memory products have been below our costs. If average selling prices for our memory products decrease faster than we can decrease per megabit costs, our business, results of operations or financial condition could be materially adversely affected.

**Increased worldwide semiconductor memory production or lack of demand for semiconductor memory could lead to further declines in average selling prices.**

The transitions to smaller line-width process technologies and 300mm wafers in the industry have resulted in significant increases in the worldwide supply of semiconductor memory and will likely lead to future increases. Increases in worldwide supply of semiconductor memory also result from semiconductor memory fab capacity expansions, either by way of new facilities, increased capacity utilization or reallocation of other semiconductor production to semiconductor memory production. We and several of our competitors have announced plans to increase production through construction of new facilities or expansion of existing facilities. Increases in worldwide supply of semiconductor memory, if not accompanied with commensurate increases in demand, would lead to further declines in average selling prices for our products and would materially adversely affect our business, results of operations or financial condition.

**We may be unable to reduce our per megabit manufacturing costs at the same rate as we have in the past.**

Historically, our gross margin has benefited from decreases in per unit manufacturing costs achieved through improvements in our manufacturing processes, including reducing the die size of our existing products. In future periods, we may be unable to reduce our per unit manufacturing costs or reduce these costs at historical rates due to strategic product diversification decisions affecting product mix, the ever increasing complexity of manufacturing processes, changes in process technologies or products which inherently may require relatively larger die sizes. Per unit manufacturing costs may also be affected by the relatively smaller production quantities and shorter product lifecycles of Imaging and certain specialty memory products.

**Our formation of IMFT and the resulting plans to significantly increase our NAND Flash memory production has numerous risks.**

On January 6, 2006, we initiated operations of the IMFT joint venture with Intel and as a result we plan to significantly increase our NAND Flash production in future periods. The IMFT agreement and our NAND Flash strategy in general require substantial investment in capital expenditures for equipment and new facilities. It also requires significant investments in research and development as well as investments to grow and develop new operations at multiple sites. These investments involve numerous risks. We are required to devote a significant portion of our existing semiconductor manufacturing capacity to the production of NAND Flash instead of the Company's other products. In conjunction with the IMFT agreement, we entered into a contract with Apple Corporation to provide NAND Flash products for an extended period of time at contractually determined prices. We currently have a relatively small share of the world-wide market for NAND Flash.

Our NAND Flash investments and commitments involve numerous risks, and may include the following:

- increasing our exposure to changes in average selling prices for NAND Flash;
- difficulties in establishing new production operations at multiple locations;

- increasing capital expenditures to increase production capacity and modify existing processes to produce NAND Flash;
- increasing debt to finance future investments;

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- diverting management's attention from DRAM and CMOS Image sensor operations;
- managing larger operations and facilities and employees in separate geographic areas; and
- hiring and retaining key employees.

Our NAND Flash strategy may not be successful and could materially adversely affect our business, results of operations or financial condition.

**The future success of our Imaging business will be dependent on continued market acceptance of our products and the development, introduction and marketing of new Imaging products.**

Our Imaging business has grown rapidly in the recent periods. Sales of Imaging products increased substantially and represented 14% of our net sales in 2006. Our imaging products have higher gross margins than the recent overall gross margins from our memory products. As we continue to expand our imaging business, there can be no assurance that we will be able to maintain these growth rates or gross margins. The continued success of our Imaging products will depend on a number of factors, including:

- development of products that maintain a technological advantage over the products of our competitors;
- accurate prediction of market requirements and evolving standards, including pixel resolution, output interface standards, power requirements, optical lens size, input standards and other requirements;
- timely completion and introduction of new Imaging products that satisfy customer requirements;
- timely achievement of design wins with prospective customers, as manufacturers may be reluctant to change their source of components due to the significant costs, time, effort and risk associated with qualifying a new supplier; and
- efficient, cost-effective manufacturing as we transition to new products and higher volumes.

**We may not be able to generate sufficient cash flows to fund our operations and make adequate capital investments.**

Our cash flows from operations depend primarily on the volume of semiconductor memory and CMOS image sensors sold, average selling prices and per unit manufacturing costs. To develop new product and process technologies, support future growth, achieve operating efficiencies and maintain product quality, we must make significant capital investments in manufacturing technology, facilities and capital equipment, research and development, and product and process technology. Cash and investments of IMFT and TECH are generally not available to finance our other operations. In addition to cash provided by operations, we have from time to time utilized external sources of financing. Depending on general market and economic conditions or other factors, we may not be able to generate sufficient cash flows to fund our operations and make adequate capital investments.

**The semiconductor industry is highly competitive.**

We face intense competition in the semiconductor memory market from a number of companies, including Elpida Memory, Inc.; Hynix Semiconductor Inc.; Qimonda AG ADS; Samsung Electronics Co., Ltd.; SanDisk Corporation; Toshiba Corporation and from emerging companies in Taiwan and China, who have announced plans to significantly expand the scale of their operations. Some of our competitors are large corporations or conglomerates that may have greater resources to withstand downturns in the semiconductor markets in which we compete, invest in technology and capitalize on growth opportunities. Our competitors seek to increase silicon capacity, improve yields, reduce die size and minimize mask levels in their product designs. These factors have significantly increased worldwide supply and put downward pressure on prices.