

MICRON TECHNOLOGY INC
Form 10-K
October 26, 2010

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 September 2, 2010

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)

75-1618004
(IRS Employer
Identification No.)

8000 S. Federal Way, Boise, Idaho
(Address of principal executive offices)

83716-9632
(Zip Code)

Registrant's telephone number, including area code (208) 368-4000

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

Title of each class	Name of each exchange on which registered
Common Stock, par value \$.10 per share	NASDAQ Global Select Market

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

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the

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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 whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). 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, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act:

Large Accelerated Filer

Accelerated Filer

Non-Accelerated Filer

Smaller Reporting Company

(Do not check if a smaller reporting company)

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 4, 2010, as reported by the NASDAQ Global Select Market, was approximately \$6.1 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 October 19, 2010, was 996,245,706.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for registrant's 2010 Annual Meeting of Shareholders to be held on December 16, 2010, are incorporated by reference into Part III of this Annual Report on Form 10-K.

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 increased sales of DDR3 DRAM products and growth in demand for NAND Flash products and solid-state drives; and in “Manufacturing” regarding the transition to smaller line-width process technologies. Our actual results could differ materially from our 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 our fiscal periods unless otherwise indicated.

Corporate Information

Micron Technology, Inc., and its consolidated subsidiaries, a Delaware corporation, was incorporated in 1978. As used herein, “we,” “our,” “us” and similar terms include Micron Technology, Inc. and its subsidiaries, unless the context indicates otherwise. Our executive offices are located at 8000 South Federal Way, Boise, Idaho 83716-9632 and our telephone number is (208) 368-4000. Information about us is available on the internet at www.micron.com. Copies of our 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 our website as soon as reasonably practicable after they are electronically filed with or furnished to the Securities and Exchange Commission (the “SEC”). Materials filed by us with the SEC are also available at the SEC’s Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Information on the operation of the Public Reference Room is available by calling (800) SEC-0330. Also available on our website are our: Corporate Governance Guidelines, Governance Committee Charter, Compensation Committee Charter, Audit Committee Charter and Code of Business Conduct and Ethics. Any amendments or waivers of our Code of Business Conduct and Ethics will also be posted on our website at 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 our website is not incorporated by reference and does not form a part of this Annual Report on Form 10-K.

Overview

We are a global manufacturer and marketer of semiconductor devices, principally DRAM, NAND Flash and NOR Flash memory, as well as other innovative memory technologies, packaging solutions and semiconductor systems for use in leading-edge computing, consumer, networking, embedded and mobile products. In addition, we manufacture semiconductor components for CMOS image sensors and other semiconductor products. We market our products through our internal sales force, independent sales representatives and distributors primarily to original equipment manufacturers and retailers located around the world. Our success is largely dependent on the market acceptance of our diversified portfolio of semiconductor products, efficient utilization of our manufacturing infrastructure, successful ongoing development of advanced process technologies and the return on research and development investments.

We obtain product for sale through two primary channels: 1) production from wholly-owned manufacturing facilities and 2) production from our joint venture manufacturing facilities. In recent years, we have obtained additional manufacturing scale and diversity of products through strategic acquisitions and various partnering arrangements, including joint ventures which have helped us to attain lower cash costs than we could otherwise achieve through internal investments alone. In addition, we have leveraged our significant investments in research and development

by sharing costs of developing memory product and process technologies with our joint venture partners.

In 2010, we had two reportable segments, Memory and Numonyx. Our other business activities are reflected in All Other nonreportable segments. Due to the similarity of activities and processes for the Memory and Numonyx segments, within the Business section of this report, only areas where there are significant differences are presented by segment. The continued integration of Numonyx into our operations will likely result in the re-definition of our reportable segments in 2011.

Memory: The Memory segment's primary products are DRAM and NAND Flash, which are key memory components used in a broad array of electronic applications, including personal computers, workstations, network servers, mobile phones and other consumer applications including Flash memory cards, USB storage devices, digital still cameras, MP3/4 players and in automotive applications. We are focused on improving our Memory segment's competitiveness by developing new products, advancing our technology and reducing costs.

Numonyx: On May 7, 2010, we completed our acquisition of Numonyx Holdings B.V. (“Numonyx”), which manufactures and sells NOR Flash, NAND Flash, DRAM and Phase Change memory technologies and products. We acquired Numonyx in a stock-for-stock transaction to further strengthen our portfolio of memory products, increase manufacturing and revenue scale, access Numonyx’s customer base and provide opportunities to increase multi-chip offerings in the embedded and mobile markets. (See “Item 8. Financial Statements – Notes to Consolidated Financial Statements – Numonyx Holdings B.V.” note.)

All Other: Operating results of All Other primarily reflect activity of our wafer manufacturing operations for CMOS image sensors and also include activity of our microdisplay, solar and other operations. We manufacture CMOS image sensor products for Aptina Imaging Corporation (“Aptina”), which is 35% owned by us, under a wafer supply agreement. (See “Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Supplemental Balance Sheet Information – Equity Method Investments – Aptina” note.)

Products

Memory: Sales of Memory products were 88%, 89% and 89% of our total net sales in 2010, 2009 and 2008, 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 60%, 50% and 54% of our total net sales in 2010, 2009 and 2008, respectively. We offer DRAM products with a variety of performance, pricing and other characteristics including high-volume DDR3 and DDR2 products as well as specialty DRAM memory products including DDR, SDRAM, Mobile Low Power DRAM, PSRAM and RDRAM.

DDR3 and DDR2: DDR3 and DDR2 are standardized, high-density, high-volume DRAM products that are sold primarily for use as main system memory in computers and servers. DDR3 and DDR2 products offer high speed and high bandwidth at a relatively low cost compared to other DRAM products. DDR3 products were 22% of our total net sales in 2010 as compared to 7% of our total net sales in 2009 and we expect that sales of DDR3 products as a percentage of total net sales will continue to increase in 2011. DDR2 products were 24%, 22% and 28% of our total net sales in 2010, 2009 and 2008, respectively.

We offer DDR3 products in 1 gigabit (“Gb”) and 2 Gb densities and DDR2 products in 256 megabit (“Mb”), 512 Mb, 1 Gb and 2 Gb densities. We expect that these densities will be necessary to meet future customer demands for a broad array of products and offer these products in multiple configurations, speeds and package types. In connection with our investment in Inotera in 2009, we also offered DDR2 and DDR3 DRAM products manufactured by Inotera using a trench DRAM technology. As Inotera transitioned to our stack DRAM technology it discontinued wafer starts on trench DRAM in July of 2010. All wafer starts since that time have been on our stack DRAM technology.

Other DRAM products: We also offer specialty DRAM memory products including DDR, SDRAM, DDR and DDR2 Mobile Low Power DRAM (“LPDRAM”), Pseudo-static RAM (“PSRAM”) and Reduced Latency DRAM (“RDRAM”), in densities ranging from 64 Mb to 2 Gb, which are used primarily in networking devices, servers, consumer electronics, communications equipment and computer peripherals as well as computer memory upgrades. Aggregate sales of these products were 14%, 21% and 25% of our total net sales in 2010, 2009 and 2008, respectively.

NAND Flash memory (“NAND”): NAND products are electrically re-writeable, non-volatile semiconductor memory devices that retain content when power is turned off. NAND sales for the Memory segment were 28%, 39% and 35% of our total net sales in 2010, 2009 and 2008, respectively. NAND is ideal for mass-storage devices due to its fast erase and write times, high density, and low cost per bit relative to other solid-state memory. Removable storage

devices, such as USB and Flash memory cards, are used with applications such as personal computers, digital still cameras, MP3/4 players and mobile phones. Embedded NAND-based storage devices are utilized in mobile phones, MP3/4 players, computers, solid-state drives (“SSD’s”), tablets and other personal and consumer applications. The market for NAND products has grown rapidly and we expect it to continue to grow due to demand for these and other removable and embedded storage devices.

DRAM, NAND and NOR share common manufacturing processes, enabling us to leverage our product and process technologies and manufacturing infrastructure across these product lines. Our NAND designs feature a small cell structure that enables higher densities for demanding applications. We offer Single-Level Cell (“SLC”) products and Multi-Level Cell (“MLC”) NAND products, which have two or more times the bit density of SLC products. In 2010, we offered SLC NAND products in 1 Gb, 2 Gb, 4 Gb and 8 Gb densities. In addition, we offered 8 Gb, 16 Gb, 32 Gb and 64 Gb 2-bit-per-cell MLC NAND products and 32 Gb and 64 Gb 3-bit-per-cell MLC NAND products. We offer high-speed NAND products that deliver much faster access by leveraging ONFI 2.0/2.1/2.2 specifications and a four-plane architecture with higher clock speeds.

We offer next-generation RealSSD™ solid-state drives for enterprise server and notebook applications which feature higher performance, reduced power consumption and enhanced reliability as compared to typical hard disk drives. Using our SLC and MLC NAND process technology, these solid-state drives (“SSDs”) are offered in 2.5-inch and 1.8-inch form factors, with densities up to 256 gigabytes and as embedded USB devices with densities up to 16 gigabytes. We expect that demand for SSD’s will increase significantly over the next few years. We also offer NAND Flash in multichip packages (“MCP’s”) that incorporate NAND Flash with other memory products to create a single package that simplifies design while improving performance and functionality.

Our Lexar subsidiary sells high-performance digital media products and other flash-based storage products through retail and original equipment manufacturing (“OEM”) channels. Our digital media products include a variety of Flash memory cards with a range of speeds, capacities and value-added features. Our digital media products also include our JumpDrive™ products, which are high-speed, portable USB flash drives for consumer applications that serve a variety of uses, including floppy disk replacement and digital media accessories such as card readers and image rescue software. We offer Flash memory cards in a variety of speeds and capacities and in all major media formats currently used by digital cameras and other electronic host devices, including: CompactFlash, Memory Stick and Secure Digital Cards. CompactFlash and Memory Stick products sold by us incorporate our patented controller technology. Other products, including Secure Digital Card Flash memory cards and some JumpDrive products, incorporate third party controllers. We sell products under our Lexar™ brand and manufacture products that are sold under other brand names, including pursuant to an agreement with Eastman Kodak Company to sell digital media products under the Kodak brand name. We also resell Flash memory products that are purchased from suppliers.

Numonyx: Sales of Numonyx products were 7% of our total net sales in 2010, reflecting sales after the May 7, 2010 acquisition of Numonyx.

NOR Flash Memory (“NOR”): NOR products are electrically re-writeable, non-volatile semiconductor memory devices that retain content when power is turned off, offer fast read times due to random access capability and have execute-in-place (“XiP”) capability, which enables processors to read NOR without first accessing RAM. These capabilities make NOR ideal for storing program code in wireless and embedded applications. NOR is the principal product of the Numonyx segment and NOR sales from the May 7, 2010 acquisition of Numonyx were 5% of our total net sales for 2010. We offer NOR products in scalable densities from 32 Mb to 2 Gb and in a wide range of voltages to meet embedded application design requirements.

We offer NOR in several product families to address different customer requirements for embedded and wireless applications. For embedded applications, Axcell™ NOR products feature memories that are divided into blocks that can be erased independently to allow valid data to be preserved while old data is erased and offer higher flexibility in code storage via both asymmetrical and symmetrical block architecture. These Axcell™ products feature flexible partition Read-While-Write/Erase (RWW/E) operation, which allows data to be read from one bank, or group of banks, while another bank is written or erased.

For wireless applications, we offer NOR flash in several product families to address a variety of applications. “M Family” StrataFlash® cellular memory NOR products, manufactured on our advanced 65nm process technology, deliver the highest available density and performance in the market for XiP solutions. “L Family” StrataFlash® cellular memory NOR products offer long-term solutions for legacy platform architectures. “W Family” NOR products offer reliable solutions for designers looking for easy integration, low density and low power.

We also offer Forté™ serial flash memory NOR products to address applications that require small, low-power and cost-effective memory solutions. Forté™ serial flash memory NOR products are offered in four product families to address different performance requirements.

NAND and DRAM: The Numonyx segment sells NAND and DRAM products primarily in MCP's that combine NAND and/or DRAM with NOR and other memory components. See additional description of NAND, DRAM and MCP's under Memory segment products above.

Phase Change Memory ("PCM"): PCM is a new memory technology that combines the best attributes of NOR, NAND and RAM, simplifying memory and producing more capabilities within a single chip. PCM is bit-alterable, non-volatile memory featuring fast read/write/erase speeds that is highly scalable to lower line-width technologies. We currently offer Omneo™ PCM products and are developing next generation PCM products.

All Other: We manufacture CMOS image sensor products for Aptina under a wafer supply agreement. Our sales of these products are dependent on Aptina's ability to successfully design and market its CMOS image sensor products to end customers. We are also developing microdisplay and solar products.

Partnering Arrangements

The following is a summary of our partnering arrangements as of September 2, 2010:

	Partner(s)	Approximate Micron Ownership Interest		Formed/ Acquired	Product Market	
Consolidated Entities:						
IMFT	Intel Corporation	51	%	2006	NAND Flash	(1)
IMFS	Intel Corporation	57	%	2007	NAND Flash	(1)
TECH	Canon Inc. and Hewlett-Packard Corporation	87	%	1998	DRAM	(2)
MP Mask	Photronics, Inc.	50	%	2006	Photomasks	(3)
Equity Method Investments:						
Inotera	Nanya Technology Corporation	30	%	2009	DRAM	(4)
MeiYa	Nanya Technology Corporation	50	%	2008	DRAM	(4)
Transform	Origin Energy Limited	50	%	2010	Solar Panels	(5)
Aptina	Riverwood Capital LLC and TPG Partners VI, L.P.	35	%	2009	CMOS Image Sensors	(6)

(1) IM Flash: We have partnered with Intel Corporation ("Intel") for the design, development and manufacture of NAND Flash products. In connection therewith, we have formed two joint ventures with Intel to manufacture NAND Flash memory products for the exclusive benefit of the partners: IM Flash Technologies, LLC ("IMFT") and IM Flash Singapore LLP ("IMFS") (collectively, "IM Flash"). The parties share the output of IM Flash generally in proportion to their investment in IM Flash. We sell NAND Flash products to Intel through IM Flash at long-term negotiated prices approximating cost. We generally share product design and other research and development costs equally with Intel. In the second quarter of 2010, IM Flash commenced start-up activities, including placing purchase orders and preparing for tool installations, at its new 300mm wafer fabrication facility in Singapore. IM Flash is included in our Memory segment. Our interest in IMFS increased to 71% on October 5, 2010, at which time we obtained a majority of the seats of the board of managers of IMFS. (See "Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Consolidated Variable Interest Entities – NAND Flash joint ventures with Intel" note.)

- (2) TECH: We have a DRAM memory manufacturing joint venture in Singapore, TECH Semiconductor Singapore Pte. Ltd. (“TECH”) among us, Canon Inc. (“Canon”) and Hewlett-Packard Company (“HP”). As of September 2, 2010, we owned an approximate 87% interest in TECH. Subject to specific terms and conditions of the joint venture agreements, we have agreed to purchase all of the products manufactured by TECH. TECH’s semiconductor manufacturing facilities use our product and process technology. The shareholders’ agreement for the TECH joint venture expires in April 2011. In September 2009, TECH received a notice from HP that it does not intend to extend the TECH joint venture beyond April 2011. We are in discussions with HP and Canon to reach a resolution of this matter. The parties’ inability to reach a resolution prior to April 2011 could result in the sale of TECH’s assets and could require repayment of TECH’s credit facility (\$348 million outstanding as of September 2, 2010). As of September 2, 2010, the carrying value of TECH’s net assets was \$1.1 billion. TECH accounted for 45% of our total DRAM wafer production in 2010, including 48% in the fourth quarter of 2010. (See “Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – TECH Semiconductor Singapore Pte. Ltd.” note.)
- (3) MP Mask: We produce photomasks for leading-edge and advanced next generation semiconductors through MP Mask Technology Center, LLC (“MP Mask”), a joint venture with Photronics, Inc. (“Photronics”). We and Photronics also have supply arrangements wherein we purchase a substantial majority of the reticles produced by MP Mask. MP Mask is included in our Memory segment. (See “Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Consolidated Variable Interest Entities – MP Mask Technology Center, LLC.” note.)
- (4) Inotera and MeiYa: We have partnered with Nanya Technology Corporation (“Nanya”) for the design, development and manufacture of stack DRAM products, including the joint development of DRAM process technology. In connection therewith, we have partnered with Nanya in two Taiwan DRAM memory companies, Inotera Memories, Inc. (“Inotera”) and MeiYa Technology Corporation (“MeiYa”). We have a supply agreement with Inotera and Nanya which gives us the right and obligation to purchase 50% of Inotera’s semiconductor memory components subject to specific terms and conditions. Under the formula for this supply agreement, all parties’ manufacturing costs related to wafers supplied by Inotera, as well as our and Nanya’s selling prices for the resale of products from wafers supplied by Inotera, are considered in determining costs for wafers from Inotera. We also partner with Nanya to jointly develop process technology and designs to manufacture stack DRAM products. In connection with the partnering agreement, we have also deployed and licensed certain intellectual property related to the manufacture of stack DRAM products to Nanya and licensed certain intellectual property from Nanya. Under a cost sharing arrangement effective beginning in April 2010, we generally share DRAM development costs equally with Nanya. In addition, in 2010, we began receiving royalties from Nanya for sales of stack DRAM products manufactured by or for Nanya with technology developed prior to April 2010. Inotera and MeiYa are included in our Memory segment. (See “Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Equity Method Investments – Inotera and MeiYa DRAM Joint Ventures with Nanya” note.)
- (5) Transform: On December 18, 2009, we acquired a 50% interest in Transform Solar Pty Limited (“Transform”), a subsidiary of Origin Energy Limited (“Origin”) in exchange for nonmonetary assets with a fair value of \$65 million, consisting of manufacturing facilities, equipment, intellectual property and a fully-paid lease to a portion of our Boise, Idaho manufacturing facilities. Transform develops and manufactures photovoltaic solar panels. Transform is included in our All Other nonreportable segments. (See “Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Equity Method Investments – Transform” note.)
- (6) Aptina: We manufacture CMOS image sensor products for Aptina under a wafer supply agreement. Our ownership in Aptina constitutes 35% of Aptina’s total common and preferred stock and 64% of Aptina’s common stock. Aptina is included in our All Other nonreportable segments. Our investment in Aptina is accounted for as

an equity method investment, in which we recognize our share of Aptina's results of operations based on our 64% share of Aptina's common stock. (See "Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Equity Method Investments – Aptina" note.)

Manufacturing

Our manufacturing facilities are located in the United States, China, Israel, Italy, Japan, Malaysia, the Philippines, Puerto Rico and Singapore. Our Inotera joint venture also has a wafer fabrication facility in Taiwan. Our 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.

Our 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. We continuously enhance our production processes, reducing die sizes and transitioning to higher density products. In the second half of 2010, most of our DRAM products were manufactured using our 50nm line-width process technology and we expect to transition our DRAM production to 42nm line-width process technology in 2011. In 2010 we began transitioning production of our NAND Flash memory products to our 25nm line-width process technology and expect that most of our NAND Flash products will be manufactured with this process technology in 2011. In 2010, we manufactured substantially all of our high-volume DRAM and NAND Flash products on 300mm wafers. We manufactured NOR Flash, some specialty DRAM and CMOS image sensor products on 200mm wafers.

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

After fabrication, most silicon wafers are separated into individual die. We sell 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. We assemble 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 for use in packaging technologies such as systems-in-a-package (SIPs) and multi-chip packages (MCPs), which reduce the board area required.

We test our products at various stages in the manufacturing process, perform high temperature burn-in on finished products and conduct numerous quality control inspections throughout the entire production flow. In addition, we use our 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.

We assemble a significant portion of our 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. We also contract with independent foundries and assembly and testing organizations to manufacture Lexar flash media products such as memory cards and USB devices.

We utilize subcontractors to perform a significant portion of our assembly, test and module assembly services. Outsourcing these services enables us to reduce costs and minimize our capital investment.

In recent years, we have produced an increasingly broad portfolio of products, which enhances our ability to allocate resources to our most profitable products but also increases the complexity of our manufacturing process. Although our product lines generally use similar manufacturing processes, our overall cost efficiency can be affected by frequent conversions to new products, the allocation of manufacturing capacity to more complex, smaller-volume parts and the reallocation of manufacturing capacity across various product lines.

NAND Flash joint ventures with Intel Corporation: Our IM Flash joint ventures with Intel manufacture NAND Flash memory products for the exclusive benefit of the partners. We share the output of IM Flash with Intel generally in proportion to their investment in IM Flash. In the second quarter of 2010, IM Flash began moving forward with start-up activities in a new Singapore wafer fabrication facility, including placing purchase orders and tool installations that commenced in the first quarter of 2011.

Inotera: Under a supply agreement with Inotera, we have the right and obligation to obtain 50% of Inotera's output, estimated to be approximately 65,000 300mm DRAM wafer starts per month by the end of calendar 2010. In 2010, Inotera substantially completed a transition of its manufacturing from trench DRAM process technology to our stack DRAM process technology.

TECH: Our TECH joint venture in Singapore manufactures DRAM products using our product and process technology. Subject to specific terms and conditions, we have agreed to purchase all of the products manufactured by TECH. In 2010, TECH accounted for approximately 24% of our total wafer production and 45% of our total DRAM production.

MP Mask: We produce photomasks for leading-edge and advanced next generation semiconductors through MP Mask. We and Photronics also have supply arrangements wherein we purchase a substantial majority of the reticles produced by MP Mask.

Aptina Supply Agreement: We manufacture CMOS image sensor products for Aptina under a wafer supply agreement.

(See "Partnering Arrangements")

Availability of Raw Materials

Our production processes require raw materials that meet exacting standards, including several that are customized for, or are unique to, us. We generally have multiple sources and sufficient availability of supply; however, only a limited number of suppliers are capable of delivering certain raw materials that meet our standards. In some cases, materials are provided by a single supplier. 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, transportation problems could delay our receipt of raw materials. Although raw materials shortages or transportation problems have not significantly interrupted our 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 our supply of raw materials is interrupted, or lead times are extended, our results of operations could be adversely affected.

Marketing and Customers

Our products are sold into computing, consumer, networking, telecommunications, and imaging markets. Approximately 45% of our net sales for 2010 were to the computing market, which includes desktop PCs, servers, notebooks and workstations. Sales to Hewlett-Packard Company, primarily of DRAM, were 13% of our net sales in 2010. Sales to Intel, primarily of NAND Flash from our IM Flash joint ventures, were 9% of our net sales in 2010, 20% of our net sales in 2009 and 19% of our net sales in 2008.

Our Memory products are offered under the Micron, Lexar®, Crucial™ and SpecTek® brand names and private labels. Our Numonyx products are offered under the Numonyx® brand name. We market our Memory and Numonyx

semiconductor products primarily through our own direct sales force and maintain sales offices in our primary markets around the world. We sell Lexar-branded NAND Flash memory products primarily through retail channels and our Crucial™-branded products primarily through a web-based customer direct sales channel. Our products are also offered through independent sales representatives and distributors. Independent sales representatives obtain orders subject to final acceptance by us and are compensated on a commission basis. We make shipments against these orders directly to the customer. Distributors carry our products in inventory and typically sell a variety of other semiconductor products, including competitors' products. We maintain inventory at locations in close proximity to certain key customers to facilitate rapid delivery of products.

We offer products designed to meet the diverse needs of computing, server, automotive, networking, commercial/industrial, consumer electronics, mobile, embedded, security and medical applications. Many of our customers require a thorough review or qualification of semiconductor products, which may take several months.

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Backlog

Because of volatile industry conditions, customers are reluctant to enter into long-term, fixed-price contracts. Accordingly, new order volumes for our semiconductor products fluctuate significantly. We typically accept orders with acknowledgment that the terms may be adjusted to reflect market conditions at the date of shipment. For these reasons, we do not believe that our 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 we may produce products that do not comply with customer specifications, contain defects or are otherwise incompatible with end uses. In accordance with industry practice, we generally provide a limited warranty that our products are in compliance with our specifications existing at the time of delivery. Under our 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, we provide more extensive limited warranty coverage than that provided under our general terms and conditions.

Competition

We face intense competition in the semiconductor memory markets from a number of companies, including Elpida Memory, Inc.; Hynix Semiconductor Inc.; Samsung Electronics Co., Ltd; SanDisk Corporation; Spansion Inc. and Toshiba Corporation. 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 resulting in significantly increased worldwide supply and downward pressure on prices.

Research and Development

Our process technology research and development (“R&D”) efforts are focused primarily on development of successively smaller line-width process technologies, which are designed to facilitate our transition to next generation memory products. Additional process technology R&D efforts focus on advanced computing and mobile memory architectures, the investigation of new opportunities that leverage our core semiconductor expertise and the development of new manufacturing materials. Product design and development efforts are concentrated on our high density DDR3DRAM and LP-DDR2 mobile LPDRAM products as well as high density and mobile NAND Flash memory (including multi-level cell technology), NOR Flash memory, specialty memory, PCM and memory systems.

Our R&D expenses were \$624 million, \$647 million and \$680 million in 2010, 2009 and 2008, respectively. We generally share R&D process and design costs for NAND Flash equally with Intel and for DRAM equally with Nanya. As a result of reimbursements under our NAND Flash and DRAM cost sharing arrangements with our joint venture partners, our overall R&D expenses were reduced by \$155 million, \$107 million and \$148 million in 2010, 2009 and 2008, respectively.

To compete in the semiconductor memory industry, we must continue to develop technologically advanced products and processes. We believe that expansion of our semiconductor product offerings is necessary to meet expected

market demand for specific memory solutions. Our process development center and largest design center are located at our corporate headquarters in Boise, Idaho. We have several additional product design centers in other strategic locations around the world. In addition, we develop leading edge photolithography mask technology at our MP Mask joint venture facility in Boise.

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 our products, we typically begin to process wafers before completion of performance and reliability testing. We deem 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.

Geographic Information

Sales to customers outside the United States totaled \$7.1 billion for 2010 and included \$3.3 billion in sales to China, \$817 million in sales to Malaysia, \$777 million in sales to Europe, \$711 million in sales to Taiwan, and \$1.1 billion in sales to the rest of the Asia Pacific region (excluding China, Malaysia and Taiwan). Sales to customers outside the United States totaled \$3.9 billion for 2009 and \$4.4 billion for 2008. As of September 2, 2010, we had net property, plant and equipment of \$3.9 billion in the United States, \$2.2 billion in Singapore, \$173 million in Italy, \$111 million in Israel, \$90 million in China, \$81 million in Japan, and \$60 million in other countries. (See “Item 8. Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Geographic Information” note and “Item 1A. Risk Factors.”)

Patents and Licenses

In recent years, we have been recognized as a leader in per capita and quality of patents issued. As of September 2, 2010, we owned approximately 16,800 U.S. patents and 2,900 foreign patents. In addition, we have numerous U.S. and foreign patent applications pending. Our patents have terms expiring through 2029.

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

In recent years, we have recovered some of our investment in technology through sales or license of intellectual property rights to joint venture partners and other third parties. We are pursuing additional opportunities to recover our investment in intellectual property through additional sales or licenses of intellectual property and potential partnering arrangements. On October 1, 2010, we entered into a 10-year patent cross-license agreement with Samsung Electronics Co., Ltd. (“Samsung”). Under the agreement, Samsung will pay us \$275 million, with \$200 million paid in October 2010, \$40 million due January 31, 2011 and \$35 million due March 31, 2011. The license is a life-of-patents license for existing patents and applications, and a 10-year term license for all other patents.

Employees

As of September 2, 2010, we had approximately 25,900 employees, of which approximately 15,900 were outside the United States, including approximately 6,