
UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2008

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 000-24838

MATTSON TECHNOLOGY, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

77-0208119

(I.R.S. employer identification number)

47131 Bayside Parkway, Fremont, California 94538

(Address of principal executive offices, zip code)

(510) 657-5900

(Registrant's telephone number, including area code)

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

Common stock, \$0.001 par value per share *(Title of class)*

Securities registered pursuant to Section 12(g) of the Act: **None**

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 Section 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 Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file 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, 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. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer 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 registrant's common stock held by non-affiliates of the registrant as of June 30, 2008 was \$235,091,000 based on the closing price for the registrant's common stock reported by the Nasdaq Global Select Market® on that date. Shares of voting stock held by each director and executive officer have been excluded in that such persons may be deemed to be affiliates on that date. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

Number of shares of registrant's common stock outstanding as of February 20, 2009: 49,708,869.

Documents incorporated by reference: Portions of the Proxy Statement for registrant's 2009 Annual Meeting of Stockholders, which will be filed on or before April 10, 2009, are incorporated herein by reference into Part III.

MATTSON TECHNOLOGY, INC.
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FOR THE YEAR ENDED DECEMBER 31, 2008
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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements made pursuant to the provisions of Section 21E of the Securities Exchange Act of 1934. These forward-looking statements are based on management's current expectations and beliefs, including estimates and projections about our industry. Forward-looking statements may be identified by use of terms such as "anticipates," "expects," "intends," "plans," "seeks," "estimates," "believes" and similar expressions, although some forward-looking statements are expressed differently. Statements concerning our financial position, business strategy and plans, objectives for future operations, the impact of macroeconomic and industry-specific changes on our business, customer demand and future sales levels, cost control measures such as outsourcing, inventory levels, research and development initiatives, other product investment initiatives, working capital requirements or future cash flows are forward-looking statements. These statements are not guarantees of future performance and are subject to certain risks, uncertainties and assumptions that are difficult to predict and may cause actual results to differ materially from the forward-looking statements and from management's current expectations. Such risks and uncertainties include those set forth in Item 1A. "Risk Factors" in this Annual Report on Form 10-K. The forward-looking statements in this report speak only as of the time they are made and do not necessarily reflect our outlook at any other point in time. We undertake no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or for any other reason. However, readers should carefully review the risk factors set forth in other reports or documents we file from time to time with the Securities and Exchange Commission.

PART I

Item 1. Business

Company Overview

Mattson Technology, Inc. (Mattson or the Company) designs, manufactures, and markets semiconductor wafer processing equipment used in the fabrication of integrated circuits (ICs or chips). Mattson is a leading supplier of dry strip and rapid thermal processing (RTP) equipment to the global semiconductor industry. Its strip and RTP equipment utilize innovative technology to deliver advanced processing performance and productivity gains to semiconductor manufacturers worldwide for the fabrication of current and next generation devices. Mattson is expanding into the etch market with innovative products targeting high volume dielectric etch applications, and is also expanding into the millisecond annealing market.

Our customer base is diversified geographically and includes foundries, memory and logic device manufacturers. We have a global sales and support organization focused on developing strong, long-term customer relationships to build customer loyalty. We have design and manufacturing centers in the United States, Canada and Germany. Our customer support organization is headquartered in Fremont, California, with sales and support teams located in China, France, Germany, Israel, Japan, Korea, Singapore, Taiwan and the United States.

Mattson Technology, Inc. was incorporated in California in 1988 and reincorporated in Delaware in 1997. Our principal executive office is located at 47131 Bayside Parkway, Fremont, CA 94538. Our telephone number is (510) 657-5900. Additional information about Mattson is available on our Website at <http://www.mattson.com>. The information on our Website is not incorporated herein by reference.

Industry Background

The manufacture of ICs is a highly complex process with numerous individual processing steps, many of which are performed multiple times before manufacturing is complete and the IC is fully functional. To build an IC, transistors are first created on the surface of the silicon wafer, known as Front-end-of-line (FEOL) fabrication, and then the transistors are microscopically wired together by means of the interconnect metal layers, known as Back-end-of-line (BEOL) processing. The steps require the wafer to be subjected to a tightly controlled series of chemical, thermal and photolithographic processes, resulting in the formation of millions, and in some cases

billions, of transistors per IC and thousands of ICs on a single wafer.

Several technological trends impact IC manufacturing. One important trend is increasing IC density. Moore's Law, an observation made in 1965 that states that the number of transistors on a chip doubles approximately every 24 months, has served as a goal for the entire industry and fueled the worldwide technology revolution. To adhere to Moore's Law, semiconductor manufacturers face continuing competitive pressures to manufacture increasingly complex ICs, improve yields per wafer and reduce manufacturing costs.

Semiconductor manufacturers have historically sought to increase the number of transistors per wafer by "shrinking" device structures through reducing device geometries or nodes. Today's advanced devices are being produced at or below the 65 nm technology node. Leading semiconductor manufacturers are ramping volume production at 45 nm and are beginning pilot line activities at the 32 nm node.

The trend toward increasing device complexity and shrinking geometries requires the use of new materials and ever more demanding processes. The industry is transitioning from using silicon/glass and aluminum as the building blocks of ICs to using newer materials, such as cobalt, copper, hafnium, nickel, tantalum, titanium, tungsten, and low capacitance (low-k) dielectrics. Use of these new materials requires increasingly stringent processes to increase chip densities and improve chip speed, while reducing power consumption. These new challenging process requirements will drive the need for increased research and development to provide more innovative solutions to enable the use of these new films and processes.

To produce more chips on a wafer and reduce overall manufacturing cost per chip, semiconductor manufacturers have migrated to larger wafers. Many semiconductor manufacturers have already transitioned to production on 300 mm (12 inch) wafers because of the manufacturing cost advantages of these larger wafers compared to 200 mm (8 inch). 300 mm wafers yield greater than 2.2 times the number of chips per wafer as compared to 200 mm wafers, providing significant economies of scale in wafer manufacturing. Most advanced devices at 65 nm and below are produced on 300 mm wafers. The trend of increasing wafer sizes is expected to continue, but because switching to production on larger wafers generally requires significant infrastructure changes in equipment and factory automation systems, the transition will occur less frequently, typically every 10 years.

These developments increase manufacturing complexity and create the need for manufacturing equipment with ever more precise process control capability, reliability, low defect rates and high productivity. The increased difficulty of achieving transistor performance at advanced nodes has made high yields important in selecting process equipment. Semiconductor manufacturers demand systems that can achieve consistent, reliable and repeatable process results within critical tolerance limits while still achieving desired throughput rates.

Consumer Electronics Driving Industry Growth

Over the past several years, consumer products have emerged as the primary force behind semiconductor industry growth, now driving over three-fourths of all semiconductor sales. Semiconductors used in consumer electronic devices include microcontrollers, microprocessors, digital signal processors and analog devices. In 2008, consumer electronics, such as cell phones, personal computers (PCs), digital televisions and digital music players, continued to drive chip demand.

Advances in semiconductor technology have resulted in consumer products with high performance at a more affordable price. As an example, as compared with a more expensive PC from a few years ago, a typical PC today has a faster processing speed and lower power consumption, with increased functionality. As a result, the PC unit shipment, led by demands in notebooks and netbook, is expected to grow at an annual rate of 8 percent through 2012. DRAM content is expected to grow in parallel in order to support the PCs with higher performance. Smartphones and 3G will drive the mobile phone market; while games, portable media players and digital televisions will also continue to drive chip demand.

The recent growth in the memory market is being driven by consumers' demand for electronic devices that provide more functionality, with larger storage capacity and mobility on a digital device. The demand for digital

cameras and portable flash media players has been a significant driver of sales of NAND flash memory devices, and that demand is expected to continue. In addition, solid-state drive (SSD) using the NAND device is starting to emerge as the storage media to replace the traditional hard drives found in PCs. The SSD market is expected to account for 20 percent of total NAND supply, while overall NAND bit demand will nearly double every year through 2012.

The increasing proliferation of semiconductors into an ever-broader range of consumer products is expected to drive industry growth for the next several years.

Mattson Strategy

Our business objective is to continuously grow Mattson while delivering strong financial performance. We are committed to continuing this successful trend and grow Mattson by:

- driving share gains in each of our existing market segments; and
- leveraging our current technology capabilities to expand into new market segments.

Strategies to achieve our long-term growth goals include:

Technology Leadership

Today's semiconductor manufacturers demand processes that deliver results with an unprecedented level of precision. We work closely with our customers, supply chain vendors and technology partners to deliver on these demands. An important element of Mattson's growth strategy is our commitment to technology leadership in the markets we serve, and the production-proven performance of our strip and RTP systems has earned us leading positions in both of these markets. Similarly, our etch technology has shown clearly differentiating capabilities in solving customers' difficult challenges. We plan to extend our market and technology leadership by developing robust processing solutions that provide semiconductor manufacturers superior technology, productivity and total cost of ownership advantages. Investments in research and development have enabled us to make process improvements and product innovations that are ready to deliver two technology nodes ahead of current device requirements, resulting in powerful and expanding product and patent portfolios. We believe that our focus on delivering advanced technologies and increasing customer value will enable us to increase our competitive advantage, expand our share in existing markets and penetrate new segments, further reinforcing our leadership.

Customer Loyalty

Our success is based on providing technical and production worthy value to our customers and enabling them to succeed. We develop and deliver products that increase productivity and reduce manufacturing costs to help our customers get their next-generation chips to market faster, thereby maximizing their returns on investment. Our global sales and service organization works with our customers to align our business with their technology and production needs. We are a vendor of choice at leading semiconductor manufacturers around the world, a testament to our success in maintaining strong relationships and building customer loyalty and satisfaction.

Operational Excellence

Because the semiconductor industry is a global business, it is critical for semiconductor equipment suppliers to have operations in each region available 24 hours a day/7 days a week/52 weeks a year. We have developed a globally integrated operations organization that responds quickly to deliver solutions and products to customers anywhere in the world. Through the successful implementation of our cyclically flexible enterprise (CFE) business model, we have built a leaner, more flexible organization designed to deliver profitability and efficiency throughout all industry cycles. We have established partnerships with our supply chain, and the outsourcing of non-core functions allows us to concentrate resources on what is most critical for our customers: developing and delivering advanced products that meet our customers' current IC technology demands and that are extendible for future devices. We have also implemented measures and programs designed to increase manufacturing efficiencies and

reduce material costs. In the coming year, we will continue to implement these measures and programs to increase enterprise-wide efficiencies and operational excellence.

Markets, Applications and Products

Dry Strip

A strip system removes photoresist (PR) or other residues from a wafer following each step of film deposition or diffusion processing in preparation for the next processing step. Methods for stripping off these residues include wet and dry technologies. The more advanced dry stripping systems, such as our Suprema™ strip tool, create gaseous chemistries, or plasmas, to which the wafer is exposed to remove mask films and residues.

As the complexity and number of thin-film layers required for each wafer has increased, the demand for advanced strip equipment has grown. This has led to a need for semiconductor manufacturers to increase their strip capacity and to place greater emphasis on low-damage results and residue-free stripping. The fabrication of ICs with feature sizes of less than 90 nm, and the use of copper and low-k dielectric films, create new challenges for advanced stripping equipment. The resist or residues must be removed from the interconnect layer without degrading the low-k materials, oxidizing any exposed copper or damaging the surface of the wafer.

Our Suprema system utilizes a new and innovative wafer handling architecture to deliver superior productivity and reliability with exceptionally low cost of ownership for manufacturing at the 90 nm node and below. The Suprema features our patented inductively coupled plasma (ICP) technology. The system utilizes an enhanced radio frequency (RF) matching network and a higher-capacity heating source to provide increased throughput, process performance and reliability. During 2008, we expanded Suprema's position with shipments to chipmakers in literally every semiconductor producing region of the world by gaining four new customers. The Suprema has been installed and is operational at 8 of the top 10 global semiconductor companies, and is being used for high volume production as well as sub-45nm process development. We fully expect that we will continue to achieve market share gains in this area, and that Suprema will be a strong contributor to our expanding market leadership in Strip.

Introduced in 2008, Alpine™ is our latest advanced low temperature dry strip system. The system is built on the high productivity platform used by Suprema and provides strip solutions for BEOL integration of the low-k dielectric and copper used in advanced devices. Alpine also provides excellent performance for other critical strip applications requiring low temperature. The Alpine is in the final device qualification phase at a leading foundry customer where we have demonstrated greater than 30 percent Cost-of-Ownership reduction against a leading competitor. Alpine is also being extended into the multi-level packaging program where our Cost-of-Ownership and ion energy control provide key differentiation against other tools available in the market.

Rapid Thermal Processing

In Rapid Thermal Processing (RTP), semiconductor wafers are rapidly heated under controlled ambient conditions to process temperatures of up to 1350 °C, held at the desired temperature for a short, defined time and then rapidly cooled. Thermal processing can alter and lock in material properties at the wafer surface as well as in the bulk silicon.

Typical processes include:

- Rapid thermal annealing: to achieve defined electrical properties in the devices or in the bulk of the wafer;
- Rapid thermal silicidation: to optimize the electrical conductive structures on the wafer; and
- Rapid thermal oxidation (RTO): to grow an oxide layer on the wafer surface.

Historically, diffusion furnaces have been used to heat-treat large batches of wafers. As device features continue to shrink, temperature uniformity and exposure control have become more critical and require process capabilities beyond those that diffusion furnaces can provide. Single-wafer RTP inherently enables more precise

thermal control, uniformity across the diameter of the wafer and repeatability of results from wafer to wafer, with substantially less thermal budget.

Mattson's RTP products feature dual-sided, lamp-based heating technology that provides enhanced process uniformity and repeatability with precise process control for both 200 and 300 mm manufacturing. Our product lines include the 2900 for 200 mm applications, the Helios™ RTP system for 300 mm anneal applications and the Atmos™ RTO system for 300 mm advanced oxidation applications.

The Helios features a state-of-the-art model-based temperature measurement and control system that provides the uniformity, repeatability and reliability required for achieving superior device performance for the most demanding 300 mm applications, including source drain anneals, spike anneals and nickel silicide (NiSi) formation. This dual-chamber RTP system has been in volume production since 2003 at 90 nm and below, and is in development for 32 nm applications at major customer sites. Our strategy surrounding the advanced Helios™ 300 mm RTP system has been to extend our winning system further into the NAND Flash market and to penetrate the logic market; taking advantage of its differentiated capabilities, specifically low temperature anneals and pattern independent RTP, which are 2 key enabling attributes for next generation sub 3x-nanometer nodes. During this past year, Helios demonstrated acceptable performance to specification at leading logic and foundry customers. Our latest generation RTP was placed at the leading DRAM and NAND provider's R&D facility. At another top memory provider, Helios has expanded from its current DRAM leadership to meeting qualification at advanced NAND, and is expected to add incremental market share in the next up-cycle.

Our flash-assisted RTP (fRTP) system, Millios™, which features a patented arc lamp technology capable of reducing thermal cycle time by a factor of over a hundred, is designed to enable our customers to meet advanced gate anneal and activation process requirements through the 32 nm technology node and beyond. In 2008, Millios demonstrated device performance and is currently in an extended marathon phase to ensure it's ready for the upcoming production ramp. After completion of the marathon, focus will shift to using the Millios' process flexibility to enhance device performance. We are working with two other key customers towards placement in the second half of 2009.

Etch (Isotropic and Low Aspect Ratio Reactive Ion)

Etching processes, which are repeated numerous times during the IC manufacturing cycle, selectively remove patterned material from the surface of a wafer to create the device structures. As IC feature sizes continue to shrink, dry (or plasma) etching has become one of the most frequently used processes in semiconductor manufacturing because of plasma etching's ability to create the fine line widths required for smaller geometries.

Plasma-based etching can be divided into sub categories: isotropic and anisotropic etching. An isotropic, or multi-directional, etch system utilizes mostly neutral and low energy ions to perform a variety of etch processes on semiconductor wafers at and beyond the 65 nm node. Anisotropic etching, which occupies the majority of the total available plasma etch market, utilizes energetic ions to directionally etch the materials. This application space is also expected to extend well beyond the 65 nm node.

Our Aspen III LiteEtch systems use our patented ICP source technology for isotropic etching applications on 200 and 300 mm wafers. The LiteEtch system leverages the very high throughput of our wafer transfer platform and the superior performance of the patented ICP with Faraday shield to provide superior process on-wafer performance.

Our Nexion™ anisotropic etch systems are currently in qualification on several etch applications at a major memory manufacturer, and one system has been accepted and is in volume production. This product draws on our expertise in anisotropic etching using a Faraday-shielded ICP system with bias capability and a platform with very high throughput to provide low cost-of-ownership, as well as excellent process on-wafer performance to our customers. This product is in full volume production at a leading memory manufacturer. During the year, we shipped three etch systems to this customer who has also entered into a joint evaluation agreement with us for development of extended process portfolio beyond the current process area we serve. Nexion continues to make

good progress, despite a down market, and we expect that it will become a major growth driver for Mattson. At present, we are working with 6 customers serving many different applications such as spacer etch, pad etch, and hardmask open, and we expect tool placement by some of these customers during 2009.

Customer Support

One of Mattson's primary goals is to build strong and productive partnerships with our customers. We recognize that their success is our success. Our customer support organization leads programs meant to build and strengthen these long-term relationships. Our customer support organization is headquartered in Fremont, California, with additional resources located in China, France, Israel, Germany, Korea, Singapore, Taiwan and the United States. Our global support infrastructure is composed of an extensive network of product and process technologists, along with experienced field service teams with diverse technical backgrounds and mechanical and electronics training. After-sales support is an essential part of our customer service program, and our international customer support teams provide the following services: system installation, on-site repair, telephone support, used tool refurbishment, relocation services and selected post-sales process development applications. As part of our restructuring activities announced in the fourth quarter of 2008, we are in the process of outsourcing customer support in the United States and Europe to third party providers.

We offer competitive, comprehensive warranties on all of our products. We maintain spare parts depots and local support in most regions. As part of our global support services, we also offer a broad selection of technical training courses, from maintenance and service training to basic and advanced applications and operation.

We are committed to the continuous improvement of our customer support services. As such, we have invested significantly in the continued training of our support resources. We are also actively engaged in joint development programs at many major customer sites to collaborate on product and process development and increase the level of customer support.

We work closely with Semiconductor Equipment Materials International (SEMI), a global member association for companies participating in the microelectronics and display industries, to ensure that our programs comply with its major support directives.

Sales and Marketing

Our marketing and sales efforts are focused on building long-term relationships with our customers. We sell our systems primarily through our direct sales force and distribution agreements in certain regions and countries. Our sales personnel work closely with our customers to develop solutions to meet their processing needs. In addition to the direct sales force resident in our Fremont, California headquarters, we have sales and support offices in China, Germany, France, Israel, Japan, Korea, Singapore, Taiwan and the United States.

In 2008, we maintained a few select representatives where it either was advantageous economically or geographically. We continued our relationship with Canon Marketing Japan for the distribution and support of our products in Japan.

Our international sales accounted for 91 percent of our net sales in 2008, 92 percent of our net sales in 2007 and 89 percent of our net sales in 2006. We anticipate that international sales will continue to account for a significant portion of our future net sales. Asia has been a particularly important region for our business. Our sales to customers located in China, Japan, Korea, Taiwan and other Asian countries accounted for 81 percent of our net sales in 2008, 79 percent of our net sales in 2007 and 82 percent of our net sales in 2006. Our foreign sales are subject to certain governmental restrictions, including the Export Administration Act and the regulations promulgated under this Act. For a discussion of the risks associated with our international sales, see Item 1A. Risk Factors to this Annual Report on Form 10-K, under the caption "We are highly dependent on international sales, and face significant international business risks."

Backlog

We schedule production of our systems based on both backlog and regular sales forecasts. We include in backlog only those systems for which we have accepted purchase orders and assigned shipment dates within the next 12 months. Orders may be subject to cancellation or delay by the customer with limited or no penalty. Our backlog was \$7.8 million as of December 31, 2008, \$27.0 million as of December 31, 2007 and \$48.9 million as of December 31, 2006.

Due to weakness in the overall semiconductor market during 2008, our customers significantly decreased their requested delivery times, in order to allow them more time to evaluate market conditions before placing orders. The economic downturn and the recession in the global markets have resulted in capital investment delays as customers are re-evaluating their plans for 2009. Because of possible future changes in delivery schedules and cancellations of orders, our backlog at any particular date is not necessarily representative of actual sales to be expected for any succeeding period. During periods of industry downturn, we have experienced cancellations, delays and push-outs of orders that were previously included in backlog.

Customers

Our customer base is diversified, both geographically and by chip segments. In 2008, customers for our products include 15 of the world's top 20 semiconductor manufacturers. The composition of our largest customers has varied from year to year. The following table shows our net sales from customers representing more than ten percent of total sales in each of the last three years and net sales from our top ten customers as a group for each of those years:

	Year Ended December 31,		
	2008	2007	2006
Canon	19%	10%	<10%
Samsung	10%	12%	15%
Hynix	<10%	15%	12%
Nanya	<10%	13%	<10%
Top ten customers as a group	72%	74%	70%

For a discussion of risks associated with changes in our customer base, see Item 1A. Risk Factors to this Annual Report on Form 10-K, under the caption "We are dependent on a highly concentrated customer base, particularly with customers in the memory market, and any cancellation, reduction or delay of purchases by or failure to collect receivables from these customers could harm our business. Additionally, we may not achieve anticipated revenue levels if we are not selected as 'vendor of choice' for new or expanded fabrication facilities."

Research, Development and Engineering

The semiconductor equipment industry is characterized by rapid technological change and product innovation. We develop process and process integration solutions with results at the wafer surface for our customers. The products that we develop and market allow our customers to address their advanced process requirements. Only by continuously striving to develop new intellectual property (IP) for processes and hardware to support new processes can we maintain and advance our competitive position in the markets we serve. Accordingly, we devote a significant portion of our resources to research, development and engineering (RD&E) programs. We seek to maintain close relationships with our global customers and to remain responsive to their product and processing needs.

Our RD&E activities in 2008 involved extending the capabilities of our strip and RTP systems, including introduction of the Alpine, targeted for advanced back-end-of-line (BEOL) strip applications, and the HeliosXP, targeted to meet the RTP needs of advanced logic and foundry customers. In addition, we continued the

development of a new 300mm reactive ion etch system, as well as commercialization of our Millios flash RTP (fRTP) system.

Our Suprema strip system incorporates our ICP photoresist process module and an innovative, high-productivity platform that we expect will set new standards for cost of ownership in the industry. In response to the industry's continued demand for higher productivity, the latest continuous improvement program (CIP) for Suprema successfully demonstrated greater than 400 wafers per hour throughput, over 10 percent improvement from current capability.

In 2008, we completed development of, and introduced, the Alpine system, our most advanced low temperature photoresist strip system to address the challenges of the low-k and other complex materials required to manufacture today's and future ICs.

In etch, we invested significant RD&E to our Nexion etch system to improve the production-worthiness of the tool in a high volume production environment. We have been working closely with a leading memory supplier and have made good progress in overall tool performance; in particular, with the tool reliability and results on the customer's devices. We also shipped the latest 300mm reactive ion etch system to the customer and entered into a joint development of next generation memory devices.

We continued to extend the capability of our latest-generation RTP tools for 45 and 32 nm technology requirements and improved our tool reliability and productivity to help reduce our customers' cost of ownership. Both our Helios RTP and Atmos RTO systems feature a model-based temperature control system for improved uniformity on advanced process applications. For Helios, we successfully engineered capabilities for more precise temperature measurement, low temperature processing as well as pattern independent processing. These improvements enable the formation of silicide and ultra shallow junction (USJ) for the most advanced devices. For the Atmos RTO system, we were able to deliver greater than 50 percent throughput improvement, which further reduced customers' cost of ownership.

In 2008, we continued to improve the performance of Millios, including the implementation of topside temperature control capability and expansion of the temperature control range. These improvements enable additional process control and process flexibility to meet our customers' stringent requirements. We shipped the latest generation Millios to a leading memory manufacturer and were also selected by the customer to be the development partner for advanced millisecond anneal processing.

In 2009, we intend to continue to make investments in strategic development and engineering programs to meet our customers' technical and production requirements. Over the next year, we intend to focus our RD&E efforts on improving existing system capabilities, developing new advanced strip processes and RTP technologies for smaller feature sizes, as well as continued development and commercialization of new products in etch and millisecond anneal.

We maintain applications development and engineering laboratories in Fremont, California, Vancouver, Canada and Dornstadt, Germany to address new tool and process development activities and customer specific requirements. Our research, development and engineering expenses were \$36.8 million for the year ended December 31, 2008, \$34.1 million for the year ended December 31, 2007 and \$28.3 million for the year ended December 31, 2006, representing 27.6 percent of net sales in 2008, 12.7 percent of net sales in 2007 and 10.1 percent of net sales in 2006.

Competition

The global semiconductor equipment industry is intensely competitive and is characterized by rapid technological change and demanding customer service requirements. Our ability to compete depends upon our ability to continually improve products, processes and services, and our ability to develop new products that meet constantly evolving customer requirements.

A substantial capital investment is required by semiconductor manufacturers to install and integrate new processing equipment into a semiconductor production line. As a result, once a semiconductor manufacturer has selected a particular supplier's products, the manufacturer often relies upon that equipment for the specific production line application, and frequently will attempt to consolidate its other capital equipment requirements with the same supplier. Accordingly, it is difficult for a competitor to sell to a customer for a significant period of time in the event a customer has selected our product, it may also be difficult to replace an existing relationship that a potential customer has with a competitor.

Each of our product lines competes in markets defined by the particular IC fabrication process it performs. In each of these markets, we have multiple competitors. At present, however, no single competitor competes with us in all of the process areas in which we serve. Competitors in a given technology tend to have different degrees of market presence in the various regional geographic markets. Competition is based on many factors; primarily technological innovation; productivity; total cost of ownership of the systems, including yield, price, product performance and throughput capability; quality; contamination control; reliability and customer support. We believe that our competitive position in each of our markets is based on the ability of our products and services to address customer requirements related to these competitive factors.

Our principal competitors in the dry strip market include Axcelis Technologies, Novellus Systems and PSK. Principal competitors for our thermal annealing systems are Applied Materials, Dainippon Screen Manufacturing Co.,Ltd (DNS) and UltraTech Technologies. In the thermal oxidation market, we compete against mini-batch furnace suppliers, including ASM International N.V., Kokusai Electric and Tokyo Electron Ltd (TEL). Principal competitors for our etch systems include Applied Materials, Lam Research Corporation and TEL.

Manufacturing

We have direct manufacturing capability in Fremont, California and Dornstadt, Germany. Our direct manufacturing operations consist of procurement, assembly, test, quality assurance and manufacturing engineering. We also utilize an outsourcing strategy for the manufacture of components, major subassemblies/modules and complete systems. Our direct manufacturing teams are an integral part of our new product development process, working closely with our engineering teams to ensure that new products meet design-for-manufacturability, cost, and quality targets. These teams also participate in information transfer to our contract manufacturing partners and qualification of partner production lines, to ensure achievement of uniform quality standards, regardless of production location. Our outsourcing partners have manufacturing facilities in China, Germany, Japan, Singapore, Taiwan and Vietnam. We have established Sales & Operations Planning (S&OP) processes and systems to manage flexibly our production capacity and inventory levels, in balance with fluctuating market demands.

Intellectual Property

We rely on a combination of patent, copyright, trademark and trade secret laws, non-disclosure agreements and other IP protection methods to protect our proprietary technology. We hold a number of United States patents and corresponding foreign patents, and have a number of patent applications pending covering various aspects of our products and processes. We have also licensed a small number of patents and where appropriate, we intend to file additional patent applications on inventions resulting from our ongoing RD&E activities to grow and strengthen all of our individual product IP portfolios.

As is customary in our industry, from time to time we receive or make inquiries regarding possible infringement of patents or other IP rights. Although there are no pending claims against us regarding infringement of any existing patents or other IP rights or any unresolved notices that we are infringing IP rights of others, such infringement claims could be asserted against us or our suppliers by third parties in the future. Any claims, with or without merit, could be time-consuming, result in costly litigation, result in loss or cancellation of customer orders, cause product shipment delays, subject us to significant liabilities to third parties, require us to enter into royalty or licensing agreements or prevent us from manufacturing and selling our products. If our products were found to infringe a third party's proprietary rights, we could be required to enter into royalty or licensing agreements in order to continue to sell our products. Royalty or licensing agreements, if required, may not be available on terms acceptable to us, if at all, which could seriously harm our business. Our involvement in any patent or other IP

dispute or action to protect trade secrets and know-how could have a material adverse effect on our business.

Employees

As of December 31, 2008, we had 504 employees, including approximately 100 employees impacted by the reduction in force who will remain on the payroll until final severance payments are made by June 2009 or until some of our service employees are transferred to our outsourcing partners. The success of our future operations will depend in large part on our ability to recruit and retain qualified employees, particularly those highly skilled design, process and test engineers involved in the manufacture of existing systems and the development of new systems and processes. At times during periods of economic growth, we have experienced difficulty in attracting new personnel, and if needed we may not be successful in retaining or recruiting sufficient key personnel in the future. None of our employees outside of Germany is represented by a labor union, and we have never experienced a work stoppage, slowdown or strike. In Germany, our employees are represented by workers' councils. We consider our relationships with our employees to be good.

Environmental Matters

We are subject to Federal, state, local and international environmental laws and regulations. These laws, rules and regulations govern the use, storage, discharge and disposal of hazardous chemicals during manufacturing, research and development and sales demonstrations. Neither compliance with Federal, state and local provisions regulating discharge of materials into the environment, nor remedial agreements or other actions relating to the environment, has had, or is expected to have, a material effect on our capital expenditures, financial condition, results of operations or competitive position. However, if we fail to comply with applicable regulations, we could be subject to substantial liability for clean up efforts, personal injuries, fines or suspension or cessation of our operations.

Available Information

We make available free of charge, through our Website, <http://www.mattson.com>, our Annual Report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to those reports as soon as reasonably practicable after such material is electronically filed with the Securities and Exchange Commission (SEC). Our publicly filed information is also available on the SEC's website, <http://www.sec.gov>. The information on our website is not incorporated herein by reference.

Item 1A. Risk Factors

RISK FACTORS THAT MAY AFFECT FUTURE RESULTS AND MARKET PRICE OF STOCK

The current severe slowing in the general economy and in the semiconductor industry have caused us recent losses and reductions in available cash, and may continue to negatively impact our financial performance

The current recession in the global economy and the current downturn in the semiconductor industry have severely impacted and could further impact customer demand for our products and our financial performance. The degree of this impact will depend on a number of factors, including whether the U.S. economy and the global economy continue a prolonged recession. Demand for semiconductor equipment depends on consumer spending. Economic uncertainty may lead to a decrease in consumer spending and may cause certain customers to cancel or delay placing orders.

We may also experience supplier or customer issues as a result of current adverse macroeconomic conditions. If our customers have difficulties in obtaining capital or financing, this could result in lower sales. Customers with liquidity issues could also result in an increase in bad debt expense. These conditions could also affect our key suppliers, which could affect their ability to supply parts and result in delays of our customer shipments. These conditions make it difficult for us to accurately predict our business, and identify the risks that may affect our business, financial condition and results of operations.

Because of the negative effects of the current recession, we may have to take further actions to reduce costs, which could reduce our ability to significantly invest in research and development at levels we believe are necessary. If we are unable to effectively align our cost structure with prevailing market conditions, we will experience additional losses and additional reductions in our cash and equivalents.

Our investment portfolio is subject to credit, liquidity, market and interest rate risks in these deteriorating financial market conditions, which could negatively impact the value and liquidity of our investment portfolio. If the need arose, it would not be easy for us to obtain short-term, longer-term or capital financing in these weak global credit markets. If we are not able to suitably adapt to these economic conditions in a timely manner, our results of operations could be materially and adversely impacted.

The semiconductor equipment industry is highly cyclical and periodically has severe and prolonged downturns, which causes our operating results to fluctuate significantly. We are exposed to the risks associated with industry overcapacity, including reduced capital expenditures, decreased demand for our products and increased price competition.

The semiconductor industry is highly cyclical and has historically experienced periodic downturns. Such downturns may result from general economic changes, such as the current recession in the U.S. and global economies, or due to capacity growth temporarily exceeding growth in demand for semiconductor devices. Our business depends, in significant part, upon capital expenditures by manufacturers of semiconductor devices, including manufacturers that open new or expand existing facilities. Periods of overcapacity and reductions in capital expenditures by our customers cause decreases in demand for our products. This could result in significant under utilization in our factories. If existing fabrication facilities are not expanded and new facilities are not built, demand for our systems may not develop or increase, and we may be unable to generate significant new orders for our systems. If we are unable to develop new orders for our systems, we will not achieve anticipated net sales levels. During periods of declining demand for semiconductor manufacturing equipment, our customers typically reduce purchases, delay delivery of ordered products and/or cancel orders, resulting in reduced revenues and backlog, delays in revenue recognition and excess inventory. Increased price competition may result, causing pressure on our gross margin and net income.

We are dependent on our revenue levels and the success of our cost reduction measures to ensure adequate liquidity during this recession.

We require a significant amount of cash resources to operate our business. Our liquidity is affected by many factors including, among others, the fluctuations in revenue, gross profits and operating expenses of our business as a result of the cyclical nature of the semiconductor industry exacerbated by the global economic crisis, and changes in operating assets and liabilities. The cyclical nature of the semiconductor industry makes it difficult for us to predict our future liquidity needs with certainty. Any upturn in the semiconductor industry would result in short term uses of our cash to fund working capital requirements for inventory purchases and accounts receivable. Alternatively, any further softening in the demand for our products may cause us to incur additional losses in the future.

We cannot predict whether any of the cost reduction measures that we have or expect to undertake to conserve our cash resources will be successful. In the future, we may need additional funds to support our working capital requirements, operating expenses or for other requirements. We may seek to raise these funds through public or private debt or equity financing, or through the sale of assets. These financing options may not be available to us on a timely basis, if at all, or, if available on terms acceptable to us or not dilutive to our shareholders. If we are unsuccessful in our attempts to obtain additional financing, we may be required to reduce planned expenditures or investments, which may adversely affect our business, reduce revenues or increase our losses.

We are dependent on a highly concentrated customer base, particularly with customers in the memory market, and any cancellation, reduction or delay of purchases by or failure to collect receivables from these customers could harm our business. Additionally, we may not achieve anticipated revenue levels if we are not selected as “vendor of choice” for new or expanded fabrication facilities.

Currently, we derive most of our revenues from the sale of systems to a relatively small number of customers, which makes our relationship with each customer critical to our business. Because semiconductor manufacturers must make a substantial investment to install and integrate capital equipment into a semiconductor fabrication facility, these manufacturers will tend to choose semiconductor equipment manufacturers based on established relationships, product compatibility and proven financial performance.

Once a semiconductor manufacturer selects a particular vendor's capital equipment, the manufacturer generally relies upon equipment from this "vendor of choice" (VOC) for the specific production line application. In addition, the semiconductor manufacturer frequently will attempt to consolidate its other capital equipment requirements with the same vendors. Accordingly, we may face narrow windows of opportunity to be selected as the VOC by significant new customers. It may be difficult for us to sell to a particular customer for a significant period of time once that customer selects a competitor's product, and we may not be successful in obtaining broader acceptance of our systems and technology. If we are unable to achieve broader market acceptance of our systems and technology, we may be unable to maintain and grow our business and our operating results and financial condition will be adversely affected.

The current list prices on our systems range from \$0.7 million to more than \$4.0 million. Consequently, any order cancellations, delays in scheduled shipments, delays in customer acceptances or delays in collection of accounts receivable could materially adversely affect our operating results and cause our results to fall below our expectations and the expectations of market analysts or investors.

The current economic and industry downturn could and has already caused at least one of our customers to file for bankruptcy protection. Because bankruptcy courts have the power to cancel or change the terms of the contracts of companies seeking bankruptcy protection, bankruptcies among our customer base may potentially result in the receivables owed to us by such customers becoming uncollectable in the near-term and perhaps indefinitely.

Our list of major customers changes substantially from year to year, and we cannot predict whether a major customer in one year will make significant purchases from us in future years. Additionally, our customers' capital budget considerations and our lengthy sales cycle make the timing of customer orders uneven and difficult to predict. Accordingly, it is difficult for us to accurately forecast our revenues and operating results from year to year.

Although we maintain a backlog of customer orders with expected shipment dates within the next 12 months, customers may request cancellations or delivery delays. As a result, our backlog may not be a reliable indication of future revenues. If shipments of orders in backlog are cancelled or delayed, revenues could fall below our expectations and the expectations of market analysts and investors.

Additionally, a large percentage of our sales are concentrated to customers in the memory market, so a downturn in memory spending could impact us more than it would impact competitors who are stronger in the logic and foundry markets. Sales to customers in the memory market accounted for 64 percent of our net sales in 2008.

We may not be able to continue to successfully compete in the highly competitive semiconductor equipment industry.

The semiconductor equipment industry is both highly competitive and subject to rapid technological change. Significant competitive factors include the following:

- system performance;
- cost of ownership;
- size of the installed base;
- breadth of product line;
- delivery speed; and
- customer support.

Competitive pressure has been increasing in several areas. In particular, there is increased price competition, and customers are waiting to make purchase commitments based on their end-user demand, which are then placed with requests for rapid delivery dates and increased product support.

Some of our major competitors are larger than we are, have greater capital resources and may have a competitive advantage over us by virtue of having:

- broader product lines;
- longer operating history;
- greater experience with high-volume manufacturing;
- substantially larger customer bases;
- the ability to reduce price through product bundling; and
- substantially greater customer support, financial, technical and marketing resources.

Our more limited product line also creates the risk that our customers may view us as less important to their business than our competitors that offer additional products as well. Growth in the semiconductor equipment industry is increasingly concentrated in the largest companies, resulting in increasing industry consolidation. Semiconductor companies are consolidating their vendor base and prefer to purchase from vendors with a strong, worldwide support infrastructure.

In addition, to expand our sales we must often displace the systems of our competitors or sell new systems to customers of our competitors. Our competitors may develop new or enhanced competitive products that will offer price or performance features that are superior to our systems. Our competitors may also be able to respond more quickly to new or emerging technologies and changes in customer requirements or to devote greater resources to the development, promotion, sale and on-site customer support of their product lines. We may not be able to maintain or expand our sales if competition increases and we are unable to respond effectively.

Significant fluctuations in our operating results are difficult to predict due to our lengthy sales cycle, and our results may fall short of anticipated levels, which could cause our stock price to decline.

Sales of our systems depend upon the decision of a prospective customer to increase or replace manufacturing capacity, typically involving a significant capital commitment. Accordingly, the decision to purchase our systems requires time-consuming internal procedures associated with the evaluation, testing, implementation and introduction of new technologies into our customers' manufacturing facilities. Even after the customer determines that our systems meet their qualification criteria, we may experience delays finalizing system sales while the customer obtains approval for the purchase, constructs new facilities or expands its existing facilities. Consequently, the time between our first contact with a customer regarding a specific potential purchase and the customer's placing its first order may last from nine to twelve months or longer. We may incur significant sales and marketing expenses during this evaluation period. In addition, the length of this period makes it difficult to accurately forecast future sales. If sales forecasted from a specific customer are not realized, we may experience an unplanned shortfall in revenues, and our quarterly and annual revenue and operating results may fluctuate significantly from period to period.

Our quarterly and annual revenue and operating results have varied significantly in the past and are likely to vary significantly in the future, which makes it difficult for us to predict our future operating results. We incurred net losses of approximately \$336.7 million for the year ended December 31, 2001, \$69.7 million for the year ended December 31, 2002 and \$35.5 million for the year ended December 31, 2003. Although we were profitable for each of the years 2004 to 2007, we incurred net losses of \$92.2 million for the year ended December 31, 2008, of which \$60.5 million was incurred during the quarter ended December 31, 2008 due to declining demand as a result of the weakness in the semiconductor equipment market and the global economic crisis. We may not achieve profitability in this or future years. We will need to generate significant sales to achieve profitability, and we may not be able to do so. A substantial percentage of our operating expenses are fixed in the short term and we may continue to be unable to adjust spending to

compensate for shortfalls in revenues. As a result, we may continue to incur losses, which could cause the price of our common stock to decline further or remain at a low level for an extended period of time.

The price of our common stock has fluctuated in the past and may continue to fluctuate significantly in the future, which may lead to losses by investors or to securities litigation.

The market price of our common stock has been highly volatile in the past, and our stock price may decline in the future. For example, for the year ended December 31, 2008, the price range for our common stock was \$1.01 to \$8.39 per share.

In addition, in recent years the stock market in general, and the market for shares of high technology stocks in particular, have experienced extreme price fluctuations. These fluctuations have frequently been unrelated to the operating performance of the affected companies. Such fluctuations could adversely affect the market price of our common stock. In the past, securities class action litigation has often been instituted against a company following periods of volatility in its stock price. This type of litigation, if filed against us, could result in substantial costs and divert our management's attention and resources.

Our stock price has been below book value for an extended period of time during the year ended December 31, 2008. This could potentially make us a target for acquisition. This could result in litigations against the company, and could result in substantial costs and potential disruption of our business.

We must continually anticipate technology trends, improve our existing products and develop new products in order to be competitive. The development of new or enhanced products involves significant risk and cost and delays. Technical and manufacturing difficulties incurred in the introduction of new products could be costly and adversely affect our customer relationships.

The markets in which our customers and we compete are characterized by rapidly changing technology, evolving industry standards and continuous improvements in products and services. Consequently, our success depends upon our ability to anticipate future technology trends and customer needs, to develop new systems and processes that meet customer requirements and industry standards and that compete effectively on the basis of price and performance.

Our development of new products involves significant risk, since the products are very complex and the development cycle is long and expensive. The success of any new systems we develop and introduce is dependent on a number of factors, including our ability to correctly predict customer requirements for new processes, to assess and select the potential technologies for research and development and to timely complete new system designs that are acceptable to the market. We may make substantial investments in new technologies before we can know whether they are technically or commercially feasible or advantageous, and without any assurance that revenue from future products or product enhancements will be sufficient to recover the associated development costs. Not all development activities result in commercially viable products. We may not be able to improve our existing systems or develop new technologies or systems in a timely manner. We may exceed the budgeted cost of reaching our research, development and engineering objectives, and planned product development schedules may require extension. Any delays or additional development costs could have a material adverse effect on our business and results of operations.

Our products are complex, and we may experience technical or manufacturing inefficiencies, delays or difficulties in the prototype introduction of new systems and enhancements, or in achieving volume production of new systems or enhancements that meet customer requirements. Our inability or the inability of our outsourced partners to overcome such difficulties, to meet the technical specifications of any new systems or enhancements or to manufacture and ship these systems or enhancements in volume and in a timely manner would materially adversely affect our business and results of operations, as well as our customer relationships.

We may from time to time incur unanticipated costs to ensure the functionality and reliability of our products early in their life cycles, and such costs can be substantial. If we encounter reliability or quality problems with our new products or enhancements, we could face a number of difficulties, including reduced orders, higher manufacturing costs, delays in collection of accounts receivable and additional service and warranty expenses, all of which could

materially adversely affect our business and results of operations. The cost associated with our warranty is significant, and in the event our projections and estimates of this cost are inaccurate, our financial performance could be seriously harmed. In addition, if we experience product failures at an unexpectedly high level, our reputation in the marketplace could be damaged, and our business would suffer.

We are subject to significant risks related to our manufacturing operations.

Our gross margins for sales of products that we manufacture in Germany and our operating expenses in Germany may fluctuate due to changes in the value of the Euro.

We develop and manufacture a significant portion of our products in Germany, where our costs for labor and materials are primarily established in Euros. Future increases in the strength of the Euro, if any, could increase our development costs, our costs to manufacture systems in Germany and our costs to purchase spare parts for products from our suppliers, which would make it more difficult for us to compete and could adversely affect our results of operations.

We are increasingly outsourcing manufacturing and logistics activities to third-party service providers, which decrease our control over the performance of these functions and quality of our products.

We have outsourced certain manufacturing and spare parts logistics functions to third-party service providers, and may outsource more of those functions in the future. While we expect to achieve operational flexibility and cost savings as a result of this, outsourcing has a number of risks and reduces our control over the performance of the outsourced functions. Significant performance problems by these third-party service providers could result in cost overruns, delayed deliveries, shortages, quality issues or other problems that could result in significant customer dissatisfaction and could materially and adversely affect our business, financial condition and results of operations.

If for any reason one or more of these third-party service providers becomes unable or unwilling to continue to provide services of acceptable quality, at acceptable costs and in a timely manner, our ability to deliver our products or spare parts to our customers could be severely impaired. We would quickly need to identify and qualify substitute service providers or increase our internal capacity, which could be expensive and time-consuming, and could result in unforeseen operational problems and late deliveries to our customers. Substitute service providers might not be available, or, if available, might be unwilling or unable to offer services on acceptable terms.

Under certain of our agreements with third-party outsourced providers, we are required to purchase certain minimum levels of production from such providers and may be liable to purchase inventory of assemblies and modules that exceed customer demand for such products. Conversely, if customer demand for our products increases, we may be unable to secure sufficient additional capacity from our current service providers on commercially reasonable terms, if at all. Our requirements are expected to represent a small portion of the total capacities of our third-party service providers, and they may preferentially allocate capacity to other customers, even during periods of high demand for our products. In addition, such manufacturers could suffer financial difficulties or disruptions in their operations due to causes beyond our control.

We depend upon a limited number of suppliers for some components and subassemblies, and supply shortages or the loss of these suppliers could result in increased cost or delays in the manufacture and sale of our products.

We rely, to a substantial extent, on outside vendors to provide many of the components and subassemblies of our systems. We obtain some of these components and subassemblies from a sole source or a limited group of suppliers. We generally acquire these components on a purchase order basis and not under long-term supply contracts. Because of our anticipated reliance on outside vendors generally, and on a sole or a limited group of suppliers in particular, we may be unable to obtain an adequate supply of required components. Although we currently experience minimal delays in receiving goods from our suppliers, when demand for semiconductor equipment is strong, our suppliers may have difficulty providing components on a timely basis.

In addition, during periods of shortages of components, we may have reduced control over pricing and timely delivery of components. We often quote prices to our customers and accept customer orders for our products prior to purchasing components and subassemblies from our suppliers. If our suppliers increase the cost of components or subassemblies, we may not have alternative sources of supply and may no longer be able to increase the cost of the system being evaluated by our customers to cover all or part of the increased cost of components.

The manufacture of some of these components is an extremely complex process and requires long lead times. If we are unable to obtain adequate and timely deliveries of our required components, we may have to seek alternative sources of supply or manufacture such components internally. This could delay our ability to manufacture or timely ship our systems, causing us to lose sales, incur additional costs, delay new product introductions and harm our reputation. During the current economic recession, it is likely that some of our suppliers may experience financial difficulties and we may be required to find alternative sources of supply. Historically, we have not experienced any significant delays in manufacturing due to an inability to obtain components, and we are not currently aware of any specific problems regarding the availability of components that might significantly delay the manufacturing of our systems in the future. However, any inability to obtain adequate deliveries, or any other circumstance that would require us to seek alternative sources of supply or to manufacture such components internally, could delay our ability to ship our systems and could have a material adverse effect on us.

Our results of operations may suffer if we do not effectively manage our inventory.

We need to manage our inventory of component parts, work-in-process and finished goods effectively to meet customer delivery demands at an acceptable risk and cost. Customers are increasingly requiring very short lead times for delivery, which may require us to purchase and carry additional inventory. For both the inventories that support manufacture of our products and our spare parts inventories, if the anticipated customer demand does not materialize in a timely manner, we will incur increased carrying costs and some inventory could become excess or obsolete, resulting in write-offs, which would adversely affect our results of operations. We recorded inventory valuation charges for excess and obsolete inventory of \$7.1 million in 2008, \$0.3 million in 2007 and \$1.7 million in 2006, mainly as a result of declining demand for our products.

We manufacture many of our products at two primary manufacturing facilities and are thus subject to risk of disruption.

Although we outsource the manufacturing for certain of our products to third parties, we continue to produce our latest generation products at our two principal manufacturing plants in Fremont, California and Dornstadt, Germany. We have limited ability to interchangeably produce our products at either facility, and in the event of a disruption of operations at one facility, our other facility would not be able to make up the capacity loss. Our operations are subject to disruption for a variety of reasons, including, but not limited to, natural disasters, work stoppages, operational facility constraints and terrorism. Such disruption could cause delays in shipments of products to our customers, result in cancellation of orders or loss of customers and seriously harm our business.

Changes in tax rates or tax liabilities could affect results.

We are subject to taxation in the United States and various other countries. Significant judgment is required to determine and estimate worldwide tax liabilities. Our future annual and quarterly tax rates could be affected by numerous factors, including changes in the applicable tax laws, composition of earnings in countries with differing tax rates or our valuation and utilization of deferred tax assets and liabilities. In addition, we are subject to regular examination of our income tax returns by the Internal Revenue Service and other tax authorities. We regularly assess the likelihood of favorable or unfavorable outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. Although we believe our tax estimates are reasonable, there can be no assurance that any final determination will not be materially different from the treatment reflected in our historical income tax provisions and accruals, which could materially and adversely affect our results of operations.

We are highly dependent on international sales, and face significant international business risks.

International sales accounted for 91 percent of our net sales in 2008, 92 percent of our net sales in 2007 and 89 percent of our net sales in 2006. We anticipate international sales will continue to account for a significant portion of our future net sales. Asia has been a particularly important region for our business, and we anticipate that it will continue to be important going forward. Our sales to customers located in China, Japan, Korea, Taiwan and other Asian countries accounted for 81 percent of our net sales in 2008, 79 percent of our net sales in 2007 and 82 percent of our net sales in 2006. Because of our continuing dependence upon international sales, we are subject to a number of risks associated with international business activities, including:

- more burdensome governmental controls, tariffs, taxes, restrictions, embargoes or export license requirements;
- unexpected changes in law or regulations prompted by the current economic downturn, such as protectionism and other attempts to rectify real or perceived international trade imbalances;
- exchange rate volatility;
- the need to comply with a wide variety of foreign and U.S. export laws;
- political and economic instability;
- government sponsored competition;
- differing labor regulations;
- reduced protection for intellectual property;
- difficulties in accounts receivable collections;
- increased costs for product shipments and potential difficulties from shipment delays;
- difficulties in managing distributors or representatives; and
- difficulties in staffing and managing foreign subsidiary operations.

Many of the challenges noted above are applicable in China, which is a developing market for the semiconductor equipment industry and therefore an area of potential significant growth for our business. As the business volume between China and the rest of the world grows, there is inherent risk, based on the complex relationships between China, Taiwan, Japan, and the United States, that political and diplomatic influences might lead to trade disruptions which would adversely affect our business with China and/or Taiwan and perhaps the entire Asian region. A significant trade disruption in these areas could have a material, adverse impact on our future revenue and profits.

In the U.S. and Asia, our sales to date have been denominated primarily in U.S. dollars. Our sales to date in Europe have been denominated in various currencies, primarily U.S. dollars and the Euro. Our sales in foreign currencies are subject to risks of currency fluctuation. For U.S. dollar sales in foreign countries, our products may become less price-competitive when the local currency is declining in value compared to the dollar. This could cause us to lose sales or force us to lower our prices, which would reduce our gross margins.

We are exposed to various risks regarding to the regulatory environment. We are subject to export control laws and noncompliance could result in fines, adverse publicity, and restrictions on our ability to export our products. We are exposed to several material contracts, non-performance of which could result in liquidated damages.

We are subject to various risks related to (1) disagreements and disputes between national and regional regulatory agencies related to international trade; (2) new, inconsistent and conflicting rules by regulatory agencies in the countries in which we operate; and (3) interpretation and application of different laws and regulations. If we are found by a court or regulatory agency to not be in compliance with the laws and regulations, our business, financial condition and results of operations could be adversely affected.

As an exporter, we must comply with various laws and regulations relating to the export of products and technology from the U.S. and other countries having jurisdiction over our operations. In the U.S. these laws include the International Traffic in Arms Regulations (“ITAR”), the Export Administration Regulations (“EAR”) administered by the Bureau of Industry and Security (“BIS”), and trade sanctions against embargoed countries and destinations administered by the U.S. Department of Treasury, Office of Foreign Assets Control (“OFAC”). These laws govern products, parts, technology and software which present military or weapons proliferation concerns, so-called “dual use” items. Prior to shipping certain items, we must obtain an export license or verify that license exemptions are available. In addition, we must comply with certain requirements related to documentation, record keeping, plant visits and hiring of foreign nationals. We have recently self-disclosed to BIS certain inadvertent EAR violations. Any failures to comply with these laws and regulations could result in fines, adverse publicity and restrictions on our ability to export our products, and repeat failures could carry more significant penalties.

We are a party to several governmental and private-party contracts that provide for liquidated damages in the event that we fail to comply with the covenants or requirements under any of these contracts. These liquidated damage payments could be significant and we could incur significant legal fees if we were to renegotiate these contracts. Any such damages amounts or legal expenses may adversely impact our financial condition or results of operations.

Because of competition for qualified personnel, we may not be able to recruit or retain necessary personnel, which could impede development or sales of our products.

Our growth will depend on our ability to attract and retain qualified, experienced employees. During periods of growth in the semiconductor industry, there is substantial competition for experienced engineering, technical, financial, sales and marketing personnel in our industry. In particular, we must attract and retain highly skilled design and process engineers. If we are unable to retain existing key personnel, or attract and retain additional qualified personnel, we may from time to time experience inadequate levels of staffing to develop and market our products and perform services for our customers. As a result, our growth could be limited, we could fail to meet our delivery commitments or we could experience deterioration in service levels or decreases in customer satisfaction.

If we are unable to protect our intellectual property, we may lose a valuable asset and experience reduced market share. Efforts to protect our intellectual property may be costly to resolve, require additional costly litigation and could divert management attention. Our obligation to indemnify customers increases during a downturn.

We rely on a combination of patents, copyrights, trademark and trade secret laws, non-disclosure agreements, and other intellectual property protection methods to protect our proprietary technology. Despite our efforts to protect our intellectual property, we may from time to time be subject to claims of infringement of other parties’ patents or other proprietary rights. If this occurs, we may not be able to prevent the use of such technology. Our means of protecting our proprietary rights may not be adequate and our patents may not be sufficiently broad to protect our technology. Any patents owned by us could be challenged, invalidated or circumvented and any rights granted under any patent may not provide adequate protection to us.

Furthermore, we may not have sufficient resources to protect our rights. As we outsource more of our activities, we are less able to protect our intellectual property ourselves, and rely more on our service providers to do so. Our competitors may independently develop similar technology, or design around patents that may be issued to us. In addition, the laws of some foreign countries may not protect our proprietary rights to as great an extent as do the laws of the United States and it may be more difficult to monitor the use of our products in such foreign countries. As a result of these threats to our proprietary technology, we may have to resort to costly litigation to enforce our intellectual property rights.

In addition, we on occasion receive notification from customers who believe that we owe them indemnification or have other financial obligations to them because of claims of intellectual property infringement made against them by third parties. Our involvement in any patent dispute or other intellectual property dispute or action to protect trade secrets, even if the claims are without merit, could be very expensive to defend and could divert the attention of our management. Adverse determinations in any litigation could subject us to significant liabilities to third parties, require

us to seek costly licenses from third parties and prevent us from manufacturing and selling our products. Royalty or license agreements, if required, may not be available on terms acceptable to us, or at all. Any of these situations could have a material adverse effect on our business and operating results in one or more countries.

Our commercial relationships with customers become more risky when market conditions give each customer greater leverage in negotiating with us. In the normal course of business, we indemnify customers with respect to certain matters, for example if our tool infringes the intellectual property rights of any third party or if we breach any promise in our contract with the customer. During downturns in general or industry-specific economic conditions, our customers may require that the extent and scope of our obligation to indemnify them be expanded. In the future, we may be compelled to enter into or accrue for settlements under such indemnification provisions. We may be compelled in the future to enter into or accrue for settlements of alleged indemnification obligations. Our financial performance could be materially adversely affected if we expend significant amounts in defending or settling any purported claims.

From time to time we may enhance, modify or upgrade our enterprise resource planning and other key software applications, which could cause unexpected problems to occur and could cause disruption to the management of our business.

From time to time, we may enhance, modify or upgrade our enterprise resource planning (ERP) system used for our worldwide operations, as well as other key software applications used in our operations. Our ERP system is integral to our ability to accurately and efficiently maintain our books and records, record our transactions, provide critical information to our management and prepare our financial statements.

Enhancements may eventually become more costly, difficult and time-consuming to purchase and implement than we currently anticipate. We may encounter unexpected difficulties or costs or other challenges, any of which may disrupt our business or cause delays in the reporting of our financial results. Our existing systems, procedures or controls may not be adequate to support our operations and require us to change our internal business practices. Corrections and improvements may be required as we enhance, modify or upgrade our systems, procedures and controls, and could cause us to incur additional costs and require additional management attention, placing burdens on our internal resources. If we fail to manage these changes effectively, it could adversely affect our ability to manage our business and our operating results.

Our failure to comply with environmental or safety regulations could result in substantial liability.

We are subject to a variety of Federal, state, local and foreign laws, rules, and regulations relating to environmental protection and workplace safety. These laws, rules and regulations govern the use, storage, discharge and disposal of hazardous chemicals during manufacturing, research and development and sales demonstrations, as well as governmental standards for workplace safety. If we fail to comply with present or future regulations, especially in our Fremont, California, Dornstadt, Germany and Vancouver, Canada manufacturing facilities, we could be subject to substantial liability for clean up efforts, personal injury, fines or suspension or cessation of our operations. We may be subject to liability if our acquired companies have past violations. Restrictions on our ability to expand or continue to operate our present locations could be imposed upon us, we could be required to acquire costly remediation equipment or incur other significant expenses.

Any future business acquisitions may disrupt our business, dilute stockholder value or distract management attention.

As part of our ongoing business strategy, we may consider acquisitions of, or significant investments in, businesses that offer products, services and technologies complementary to our own. Such acquisitions could materially adversely affect our operating results and/or the price of our common stock. Acquisitions also entail numerous risks, including:

- difficulty of assimilating the operations, products and personnel of the acquired businesses and possible impairments caused by this;
- potential disruption of our ongoing business;

- unanticipated costs associated with the acquisition;
- inability of management to manage the financial and strategic position of acquired or developed products, services and technologies;
- inability to maintain uniform standards, controls, policies and procedures; and
- impairment of relationships with employees and customers that may occur as a result of integration of the acquired business.

To the extent that shares of our stock or other rights to purchase stock are issued in connection with any future acquisitions, dilution to our existing stockholders will result, and our earnings per share may suffer. Any future acquisitions may not generate additional revenue or provide any benefit to our business, and we may not achieve a satisfactory return on our investment in any acquired businesses.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our principal properties as of December 31, 2008 are set forth below:

Location	Type	Principal Use	Square Footage	Ownership
Fremont, CA	Office, plant and warehouse	Headquarters, marketing, manufacturing, distribution, research and engineering	101,000	Leased
Exton, PA	Office, plant and warehouse	Subleased	80,000 ⁽¹⁾	Leased
Dornstadt, Germany	Office, plant and warehouse	Manufacturing, research and engineering	102,000 ⁽²⁾	Leased

(1) Leased property in Exton, PA is not needed for our operations. As of December 31, 2008, this property was subleased to another party.

(2) We intend to vacate 13,000 square feet by June 2009 as a result of the restructuring program announced in the third quarter of 2008.

In addition to the above properties, we lease an aggregate of approximately 60,000 square feet of office space for sales and customer support offices. In Canada, we also lease approximately 20,000 square feet of office, plant and warehouse space for office, manufacturing and research facilities. In total, we lease office space for headquarters, manufacturing, operations, research and engineering, distribution, marketing, sales and customer support in approximately twenty locations throughout the world: two in the United States, four in China, four in Korea, four in Taiwan, two in Germany, and one in each of Canada, Japan, Israel and Singapore. During 2008, we reviewed the utilization of our facilities and made appropriate amendments to our lease agreements as necessary. We consider these current facilities suitable and adequate to meet our requirements.

Item 3. Legal Proceedings

In the ordinary course of business, we are subject to claims and litigation, including claims that we infringe third party patents, trademarks and other intellectual property rights. Although we believe it is unlikely that any current

claims or actions will have a material adverse impact on our operating results or our financial position, given the uncertainty of litigation, we cannot be certain of this. Moreover, the defense of claims or actions against us, even if not meritorious, could result in the expenditure of significant financial and managerial resources.

Our involvement in any patent dispute, other intellectual property dispute or action to protect trade secrets and know-how could result in a material adverse effect on our business. Adverse determinations in current litigation or any other litigation in which we may become involved could subject us to significant liabilities to third parties, require us to grant licenses to or seek licenses from third parties and prevent us from manufacturing and selling our products. Any of these situations could have a material adverse effect on our business.

Item 4. Submission of Matters to a Vote of Security Holders

No matters were submitted to a vote of security holders during the fourth quarter.

Executive Officers of the Registrant

The following table and notes set forth information about our three executive officers:

Name	Age	Title
David L. Dutton	48	Chief Executive Officer, President and Director
Andy Moring	53	Chief Financial Officer, Executive Vice President-Finance
Nigel Wenden	49	Senior Vice President - Global Business Operations

David L. Dutton — Chief Executive Officer, President and Director

David Dutton has served as Mattson’s Chief Executive Officer and Director since October 2001. Mr. Dutton also served as Mattson’s President from October 2001 to June 2005 and from November 2007 to the present. From 1998 to 2000, Mr. Dutton served as Executive Vice President and Chief Operating Officer of Mattson. Mr. Dutton previously served as President of the Plasma Products Division. Mr. Dutton joined Mattson in 1994 as General Manager of the Strip/Plasma Etch division. Mr. Dutton started his career in the semiconductor industry in 1984 and held engineering management positions for wafer processing and development at Intel Corporation and Maxim Integrated Products, Inc. Mr. Dutton serves on the Board of Directors for the Bay Area Council. Mr. Dutton holds a Bachelor of Science degree from San Jose State University.

Andy Moring — Chief Financial Officer, Executive Vice President-Finance

Andy Moring was promoted to Chief Financial Officer upon the resignation of William L. Turner in June 2008. He served as Mattson’s Senior Vice President and Corporate Controller since July 2006. Prior to July 2006, Mr. Moring served at Applied Materials, Inc., a manufacturer of semiconductor fabrication equipment, for 17 years in various progressively responsible financial positions culminating in his appointment as Vice President of Global Internal Audit. Mr. Moring holds a BS degree in Economics from the University of California, Riverside and an MBA from Santa Clara University.

Nigel Wenden — Senior Vice President - Global Business Operations

Nigel Wenden was appointed as Mattson’s Senior Vice President - Global Business Operations in July 2008. Prior to joining Mattson, Mr. Wenden served from April 2002 to June 2008 with Edwards, Ltd., a privately held billion-dollar supplier of integrated solutions and subsystems, most recently serving as Executive Vice President and Director of Edwards, Ltd. From 1982 to April 2002, Mr. Wenden served at Mykrolis Corporation, a supplier of technologies for semiconductor manufacturing, in several roles culminating in his appointment in January 2001 as Vice President, Gas Products Business Units. Mr. Wenden has a B.S. in electronic and electrical engineering from Coventry University, England. He attended the Harvard Business School, where he studied Strategic Marketing; and has served as Chair of SEMI’s Sales and Marketing Executive Council.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market for Registrant's Common Equity

Our common stock has been traded on the Nasdaq Global Select Market® (Formerly Nasdaq National Market) since our initial public offering on September 28, 1994. Our stock is quoted under the symbol "MTSN". The following table sets forth the low and high closing prices as reported by the Nasdaq Global Select Market for the periods indicated:

	<u>Low</u>	<u>High</u>
2008 Quarter		
First	\$ 5.22	\$ 8.39
Second	4.58	6.28
Third	4.22	5.72
Fourth	1.01	4.73
2007 Quarter		
First	\$ 8.25	\$ 9.71
Second	9.11	10.48
Third	8.65	11.66
Fourth	7.69	9.49

On February 20, 2009, the last reported sales price of our common stock on the Nasdaq Global Select Market was \$0.67 per share. According to the records of our transfer agent, we had 198 stockholders of record of our common stock on February 20, 2009. Because brokers and other institutions hold many of our shares on behalf of stockholders, we are unable to estimate the total number of stockholders represented by these recordholders.

Dividends

We have never paid cash dividends on our common stock and have no present plans to pay cash dividends. We intend to retain all future earnings for use in our business.

Equity Compensation Plan Information

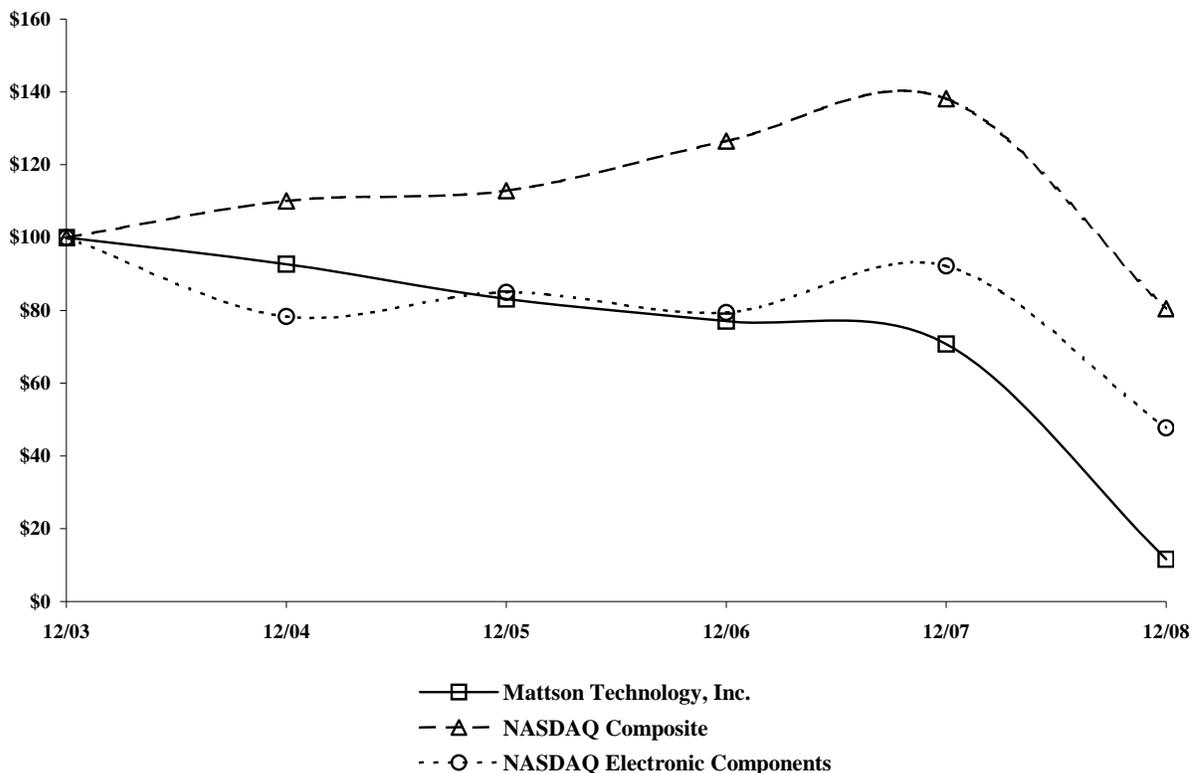
The following table summarizes our equity compensation plans as of December 31, 2008:

	Number of securities to be issued upon exercise of outstanding options (a)	Weighted-average exercise price of outstanding options (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	5,772,000	\$ 8.85	5,623,000
Equity compensation plans not approved by security holders	-	-	-
	<u>5,772,000</u>	<u>\$ 8.85</u>	<u>5,623,000</u>

Comparison of Stockholder Return

The following graph compares the cumulative five-year total return provided shareholders on Mattson Technology, Inc.'s common stock relative to the cumulative total returns of the NASDAQ Composite index and the NASDAQ Electronic Components index.

**Comparison of Five-Year Cumulative Total Return
From December 31, 2003 through December 31, 2008 (1)**
Among Mattson Technology, Inc., the NASDAQ Composite Index
and the NASDAQ Electronic Components Index



	December 31,					
	2003	2004	2005	2006	2007	2008
Mattson Technology, Inc.	\$ 100.00	\$ 92.64	\$ 83.14	\$ 77.02	\$ 70.74	\$ 11.65
NASDAQ Composite	\$ 100.00	\$ 110.08	\$ 112.88	\$ 126.51	\$ 138.13	\$ 80.47
NASDAQ Electronic Components	\$ 100.00	\$ 78.30	\$ 84.93	\$ 79.38	\$ 92.16	\$ 47.68

- (1) Assumes that \$100.00 was invested in Mattson common stock and in each index at market closing prices on December 31, 2003, and that all dividends were reinvested. No cash dividends have been declared on our common stock. Stockholder returns over the indicated period should not be considered indicative of future stockholder returns.

Issuer Repurchases of Equity Securities

In April 2007, our Board of Directors approved a common stock repurchase plan (Repurchase Plan) that authorized the repurchase of up to \$20.0 million of our outstanding shares of common stock through open-market purchases or private transactions pursuant to a plan in conformity with Rule 10(b) 5-1. As of December 31, 2007, we have completed all repurchases under this initial authorization, at a weighted-average cost of \$9.97 per share.

In October 2007, our Board of Directors expanded our Repurchase Plan, authorizing the repurchase of up to an additional \$30 million of the Company's shares of common stock through open-market purchases or private transactions. The size and timing of future repurchases will depend on the Company's share price. As of December 31, 2008, a total of 3.8 million shares have been repurchased against the original and expanded Repurchase Plan, at a weighted-average purchase price of \$9.20 for a total purchase price of \$35 million. The last of the repurchases of common stock under this plan was completed in the first quarter of 2008. The Company has authorization to repurchase up to an additional \$15 million of the Company's shares of common stock under the Repurchase Plan.

Item 6. *Selected Financial Data*

The following historical financial data should be read in conjunction with our consolidated financial statements and notes thereto. We derived the selected consolidated income (loss) statement data for the years ended December 31, 2008, 2007, and 2006 and the selected consolidated balance sheet data as of December 31, 2008 and 2007 from our audited consolidated financial statements appearing in Item 8 of this report. We derived the selected consolidated income (loss) statement data for the years ended December 31, 2005, and 2004 and the selected consolidated balance sheet data as of December 31, 2006, 2005 and 2004 from our audited consolidated financial statements as published in our 10-K for the year ended December 31, 2006 and December 31, 2005.

Consolidated Income (Loss) Statement Data:

	Year Ended December 31,				
	2008	2007	2006	2005	2004
	(thousands, except per share amounts)				
Net sales	\$ 133,551	\$ 267,286	\$ 281,781	\$ 209,379	\$ 246,485
Cost of sales	\$ 86,005	\$ 144,075	\$ 172,720	\$ 124,126	\$ 141,774
Gross profit	\$ 47,546	\$ 123,211	\$ 109,061	\$ 85,253	\$ 104,711
Income (loss) from operations	\$ (91,825)	\$ 24,241	\$ 15,490	\$ 5,376	\$ 22,208
Net income (loss)	\$ (92,163)	\$ 27,553	\$ 17,114	\$ 11,299	\$ 30,993
Net income (loss) per share:					
Basic	\$ (1.86)	\$ 0.53	\$ 0.33	\$ 0.22	\$ 0.63
Diluted	\$ (1.86)	\$ 0.52	\$ 0.32	\$ 0.21	\$ 0.61
Shares used in computing net income (loss) per share:					
Basic	49,471	51,771	52,357	51,457	49,439
Diluted	49,471	52,716	53,368	52,684	50,973

Consolidated Balance Sheet Data:

	December 31,				
	2008	2007	2006	2005	2004
	(thousands)				
Cash and cash equivalents	\$ 77,107	\$ 125,533	\$ 91,416	\$ 116,593	\$ 89,653
Short term investments	\$ 26,280	\$ 27,034	\$ 47,469	\$ 12,689	\$ 2,488
Working capital	\$ 140,491	\$ 201,019	\$ 185,078	\$ 152,324	\$ 142,674
Total assets	\$ 208,211	\$ 317,770	\$ 316,752	\$ 275,567	\$ 294,911
Total stockholders' equity	\$ 156,836	\$ 245,283	\$ 238,930	\$ 210,189	\$ 203,336

In 2008, revenue declined by 50 percent from 2007 due to the weakness in the semiconductor market, resulting in a gross margin of 36 percent and net cash used in operating activities of \$43 million. Also in 2008, operating expenses increased by \$40.4 million primarily due to restructuring charges of \$6.0 million, an impairment charge for goodwill of \$18.1 million and impairment charges for intangibles and certain long-lived assets of \$9.4 million. Restructuring charges primarily represented severance expenses. Impairment of goodwill, intangibles and long-lived assets were determined based on an annual review in accordance with Statement of Financial Accounting Standards ("SFAS") No. 142, *Goodwill and Other Intangible Assets* and SFAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*. The impairment provision resulted in writing off the remaining book value of goodwill, intangibles and certain long-lived assets totaling \$27.5 million.

In 2007, operating expenses were reduced by \$1.6 million due to the release of amounts previously accrued as we completed all remaining obligations under a foreign government-funded capital development project. We also recorded an incremental \$3.8 million in income tax expense related to an unfavorable ruling on the applicability of tax law in one of our foreign locations. In accordance with the requirements of SFAS No. 109, *Accounting for Income Taxes*, we reduced our tax benefits by \$0.4 million and \$1.5 million, in 2007 and 2006 respectively. This was due to the utilization of certain acquired tax assets, largely consisting of net operating loss carryforwards, which were used to reduce goodwill rather than benefit income taxes.

In 2006, we incurred charges relating to the impairment of long-lived assets of \$2.6 million. In 2006 and 2005, we recorded gains related to the disposition of our wet surface preparation products business (the Wet business) of \$0.6 million and \$2.9 million, respectively. In October 2004, we completed the acquisition of Vortek Industries Ltd. (Vortek). This acquisition has been accounted for under the purchase method of accounting, and the results of

operations of Vortek are included in our selected financial data from that date. These items affect the comparability of our financial data for the periods shown in the preceding table. These transactions are further discussed in Item 7, *Management's Discussion and Analysis of Financial Conditions and Results of Operations*, and in the accompanying consolidated financial statements.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with Item 6. "Selected Financial Data," our consolidated financial statements and related notes included elsewhere in this document. In addition to historical information, the discussion below contains certain forward-looking statements that involve risks and uncertainties. These forward-looking statements include, but are not limited to, those matters discussed under the heading "Forward-looking Statements," above. Our actual results could differ materially from those anticipated by these forward-looking statements due to various factors, including, but not limited to, those set forth under Item 1A. "Risk Factors" in this Annual Report on Form 10-K and elsewhere in this document.

Overview

We are a supplier of semiconductor wafer processing equipment used in the fabrication of integrated circuits (ICs). Our manufacturing equipment is used for transistor level, or front-end-of-line manufacturing, and also in specialized applications for processing the interconnect layer, or back-end-of-line processing. Our manufacturing equipment utilizes innovative technology to deliver advanced processing capabilities and high productivity for the fabrication of current and next-generation ICs.

Our business depends upon capital expenditures by manufacturers of semiconductor devices. The level of capital expenditures by these manufacturers depends upon the current and anticipated market demand for such devices. Because the demand for semiconductor devices is highly cyclical, the demand for wafer processing equipment is also highly cyclical.

During 2008, there was a significant weakness in the semiconductor equipment market, which was exacerbated by the global economic slowdown, and weakness in the credit markets, followed by a global recession. Consequently, revenues decreased by 50 percent to \$133.6 million from \$267.3 million in 2007. Gross Profit decreased year over year by \$75.7 million or 61.4 percent, primarily due to lower revenue, factory under-absorption at these low revenue levels and higher provisions for inventory write-downs. Despite this trend, we invested in our future by increasing our research, development and engineering activity expenses in 2008 to expand our product offerings in dielectric etch, RTP and dry strip products. Selling, general and administrative expenses were also higher by \$4.2 million or 6.5 percent as a result of significantly higher receivable reserves and additional provisions for evaluation tools at customer sites. Other significant items in 2008 included restructuring charges of \$6.0 million, goodwill impairment of \$18.1 million and impairment of intangibles and other long-lived assets of \$9.4 million. Net loss before tax was \$89.9 million, or 67.3 percent of net sales in 2008, compared to net income before taxes of \$32.5 million, or 12.1 percent of net sales in 2007.

We had \$103.4 million of cash, cash equivalents and short-term investments and no long-term debt at December 31, 2008. With our current cash position, we believe we have sufficient resources to meet our requirements for the next year. In 2007, the Company's Board of Directors authorized the repurchase of up to \$50 million of shares of common stock through open-market purchases or private transactions. In 2008 and 2007, 0.3 million and 3.5 million shares, respectively were repurchased under this program for a total of \$35.0 million.

Beginning in the second half of 2007 and throughout 2008, we experienced weakness in the overall semiconductor market combined with the global financial crisis, and we expect that weakness to continue into 2009 and perhaps into 2010. Oversupply conditions in the semiconductor market have significantly reduced the utilization at our customer's fabrication plants and delayed capital investments to subsequent quarters. We are uncertain as to when revenues will increase to breakeven levels. There continue to be several uncertainties that will impact gross profit margin during 2009. At these low revenue levels, we will continue to have significant under-absorption of our factories and may have

to take additional inventory reserves for excess and obsolete inventory. These factors will have a major impact on our gross margin percentages for 2009.

During 2009, we will respond to these challenges with significant cost reduction measures, while continuing to invest in our core and new products to position us for success in the semiconductor equipment market. We continue to focus on our objectives to outsource manufacturing in Fremont and Germany to reduce manufacturing overhead costs. Our global headcount has been reduced by approximately 35 percent as a result of various restructuring activities during 2008. We have optimized our worldwide facilities, reduced variable headcount expenses through shutdowns, unpaid time-off, and are taking several measures to reduce travel, outside service and facility related costs. We will continue to review our operations and take further cost reduction measures as necessary, in order to minimize the cash used in operations, and retain sufficient cash reserves for the next twelve months. However, though we have implemented these cost cutting and operational flexibility measures, we are largely dependent upon increases in sales in order to improve our profitability.

Going forward, the success of our business will be dependent on numerous factors, including, but not limited to, the market demand for semiconductors and semiconductor wafer processing equipment; and our ability to (a) significantly grow the Company, either organically or through acquisitions, in order to enhance our competitiveness and profitability; (b) develop and bring to market new products that address our customers' needs; (c) grow customer loyalty through collaboration with and support of our customers; (d) maintain a cost structure that will enable us to operate effectively and profitably throughout changing industry cycles and (e) generate the gross profits necessary to enable us to make the necessary investments in our business.

Results of Operations

Years Ended December 31, 2008 and 2007

The following table sets forth our consolidated results of operations for the years ended December 31, 2008 and 2007, and the year-over-year increase (decrease) in our results, expressed both in dollar amounts (in thousands) and as a percentage of net sales, except where indicated:

	Year Ended December 31,				Increase (Decrease)	
	2008		2007			
Net sales	\$ 133,551	100.0 %	\$ 267,286	100.0 %	\$ (133,735)	(50.0) %
Cost of sales	86,005	64.4	144,075	53.9	(58,070)	(40.3)
Gross profit	47,546	35.6	123,211	46.1	(75,665)	(61.4)
Operating expenses:						
Research, development and engineering	36,833	27.6	34,116	12.7	2,717	8.0
Selling, general and administrative	68,530	51.3	64,343	24.1	4,187	6.5
Amortization of intangibles	512	0.4	511	0.2	1	0.2
Restructuring charges	5,989	4.5	-	-	5,989	n/a
Impairment of goodwill	18,076	13.5	-	-	18,076	n/a
Impairment of intangibles and long-lived assets	9,431	7.1	-	-	9,431	n/a
Total operating expenses	139,371	104.4	98,970	37.0	40,401	40.8
Income (loss) from operations	(91,825)	(68.8)	24,241	9.1	(116,066)	n/a
Interest income	3,292	2.5	7,037	2.6	(3,745)	(53.2)
Interest expense	(144)	(0.1)	(31)	-	(113)	n/a
Other income (expense), net	(1,175)	(0.9)	1,207	0.4	(2,382)	n/a
Income (loss) before income taxes	(89,852)	(67.3)	32,454	12.1	(122,306)	n/a
Provision for income taxes	2,311	1.7	4,901	1.8	(2,590)	(52.8)
Net income (loss)	\$ (92,163)	(69.0) %	\$ 27,553	10.3 %	\$ (119,716)	n/a %

Sales. Net Sales decreased by 50 percent to \$133.6 million for the year ended December 31, 2008 compared to \$267.3 million for the year ended December 31, 2007. The decrease in net sales was primarily due to a \$126.2 million decline in systems sales, a \$2.9 million decline in spares and service sales and a \$4.6 million decline in royalty revenue arising from the settlement of a patent infringement lawsuit with Dainippon Screen Manufacturing Co., Ltd (“DNS”). No further royalty payments are expected to be received from DNS. We believe that a substantial portion of the decrease in net sales is a result of the current global economic downturn, which has negatively impacted demand for our products. At the beginning of the downturn, the weakness was limited to the memory market, but recently, the weakness has extended to the other segments of the wafer fabrication equipment market, compounded by the global economic crisis. Approximately 64 percent of our systems sales are from the memory market. International sales, to customers based in Europe and Asia, including China, Japan, Korea, Singapore and Taiwan, accounted for 91 percent of net sales in 2008, compared to 92 percent for the same period in 2007. We anticipate that international sales will continue to account for a significant portion of our net sales.

Deferred revenue at December 31, 2008 decreased to \$4.2 million from \$7.2 million at December 31, 2007, primarily due to a \$3.4 million net decrease in deferred revenue for system shipments and a \$0.4 million net increase in deferred revenue for service contracts.

Gross Profit and Gross Profit Margin. Gross profit was \$47.5 million for the year ended December 31, 2008, a decrease of \$75.7 million or 61.4 percent compared to \$123.2 million for the year ended December 31, 2007. The decrease was due primarily to a 50 percent decline in net sales in 2008 when compared to 2007, manufacturing under absorption of \$7.4 million in 2008 compared to \$1.9 million in 2007, and \$8.4 million in inventory reserves and manufacturing direct costs in 2008 compared to \$1.8 million in 2007. The weakness in the overall semiconductor equipment market resulted in lower revenue levels and the corresponding under absorption of fixed manufacturing overhead costs in our factories. We have taken additional inventory reserves for excess inventory due to lower forecasted revenue volumes. We have reduced manufacturing headcount by approximately 55 percent as a result of our restructuring activities announced in the third and fourth quarters. This has resulted in a reduction in manufacturing overhead costs, but the significant revenue decline has still resulted in under-absorption of costs.

Gross profit margin for the year ended December 31, 2008 decreased to 35.6 percent from 46.1 percent for the year ended December 31, 2007, a decline of 10.5 percent. The decrease in gross profit margin was primarily due to under absorption of fixed manufacturing costs due to lower production levels and additional inventory reserves.

Due to intense competition, we continue to face pricing pressures that can affect our gross profit margin. Our gross profit margin has varied over the years and will continue to be affected by many factors, including competitive pressures, product mix, economies of scale, material and other costs, overhead absorption levels and the timing of revenue recognition in accordance with accounting rules.

Research, Development and Engineering (“RD&E”). RD&E expenses were \$36.8 million for the year ended December 31, 2008, an increase of \$2.7 million or 8 percent compared to \$34.1 million for the year ended December 31, 2007. The increase was primarily due to \$1.9 million in higher depreciation on lab tools, lower research and development credits from a research partner of \$0.8 million, \$0.3 million higher outside service expenses, and \$0.2 million of other costs, partially offset by lower material expenses of \$0.5 million as our millisecond anneal product transitioned into later stages of product development.

Selling, General and Administrative (“SG&A”). SG&A expenses were \$68.5 million for the year ended December 31, 2008, an increase of \$4.2 million or 6.5 percent compared to \$64.3 million for the year ended December 31, 2007. The increase in SG&A expenses was primarily due to \$4.4 million higher receivables provisions, additional amortization of \$2.2 million for evaluation tools at customer sites, a \$1.6 million one-time material credit related to reserve releases in 2007 against a government funded project, \$1.3 million higher installation expenses related to the evaluation tools at customer sites and \$1.5 million higher expenses arising from market development and selling efforts. These increases were partially offset by \$3.5 million in reduced payroll expenses arising from restructuring activities, \$2.0 million savings from contract re-negotiations and reduced third-party services, and \$1.3 million in lower sales commissions and insurance costs.

Amortization of Intangibles. Amortization expenses of \$0.5 million for the years ended December 31, 2008 and 2007, respectively represents amortization of purchased technology acquired as a result of the Vortek acquisition in 2004. At the end of 2008, we recorded an impairment charge to write down the entire value of purchased technology, as required by SFAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*.

Restructuring Expenses. During 2008, we implemented several restructuring programs in response to the weakness in the overall semiconductor industry. As part of the fourth quarter restructuring activity, we implemented a reorganization of our structure to reduce costs of operations and streamline the organization going forward. We reduced about 110 positions or 20 percent of the global work force through reductions in force and outsourcing. We incurred restructuring charges including benefits of \$2.5 million in severance expenses and have paid out \$0.6 million against this reserve. We expect to incur another \$1.1 million for severance expenses and complete all activities related to this plan by the second quarter of 2009.

As part of the third quarter restructuring activity, we implemented a cost alignment plan to reduce headcount and optimize facilities worldwide. We reduced 63 positions or 11 percent of the global work force. Manufacturing positions represented approximately fifty percent of the positions impacted. We optimized our facilities worldwide and as a result, intend to reduce our leased space in Germany. We incurred restructuring charges of \$2.5 million for severance costs and \$0.4 million for lease termination expenses and have paid out \$0.9 million against this reserve. We have made an adjustment to the reserve of \$0.1 million. We expect to incur another \$1 million for possible lease termination expenses and complete all activities related to this plan by the second quarter of 2009.

As part of the second quarter restructuring activity announced in June, we eliminated approximately 25 positions, or about 5 percent of the global workforce primarily in the office support organizations. We incurred restructuring charges of \$0.7 million for severance expenses and have paid \$0.6 million against this reserve. We have made adjustments to the reserve of \$0.1 million. All activities against this plan have been completed.

In summary, as a result of our restructuring activities in 2008, we have reduced our headcount by approximately 35 percent or 200 employees, and optimized facilities worldwide. The estimated annual savings from all the restructuring activities are expected to be approximately \$19 million. A percentage of the savings will be re-invested in our new product development activities and the remainder will help us reduce our cash loss from operations. During 2008, restructuring charges were \$6.0 million primarily representing severance expenses and \$2.0 million was paid against this restructuring reserve. We expect to incur future charges of \$1.0 million for lease termination expenses and \$1.1 million in additional severance expenses against these restructuring programs and expect to complete all activities against these plans by the second quarter of 2009. There were no restructuring charges for the year ended December 31, 2007.

Impairment of Goodwill. In 2008, we recorded an impairment charge of \$18.1 million to write off the book value of goodwill, as required by SFAS No. 142, *Goodwill and Other Intangible Assets*. The write off represented the entire net book value of goodwill. There was no impairment charge related to goodwill for the year ended December 31, 2007. See Note 5 to the accompanying financial statements for further detail on goodwill impairment.

Impairment of Intangibles and Long-Lived Assets. In 2008, we recorded impairment charges to write off the net book value of all of our intangible assets of \$6.6 million and certain lab assets of \$2.8 million, as required by SFAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*. The write off of the intangible assets represented the entire net book value of certain technology acquired from Vortek in October of 2004. There were no impairment charges related to intangibles and long-lived assets for the year ended December 31, 2007. See Note 5 to the accompanying financial statements for further detail on impairment of intangibles and Note 4 for further detail on impairment of long-lived assets.

Interest and Other Income (Expense), Net. Interest income of \$3.3 million decreased in 2008 by \$3.7 million compared with 2007 due to lower cash investment balances in 2008 and lower average interest rate yields of 2.6 percent compared to 4.7 percent in 2007. The \$2.4 million increase in other expense, net in 2008 compared with 2007 was

primarily due to \$1.2 million foreign exchange losses caused by a weakening dollar in the first half of 2008 and one time payments of \$1.0 million received in connection with the termination of two commercial agreements in 2007.

Provision for Income Taxes. The provision for income taxes in 2008 consisted entirely of a \$2.3 million provision for foreign taxes. The provision for income taxes in 2007 consisted primarily of a \$0.2 million provision for Federal and state income taxes and a \$4.7 million provision for foreign taxes. Currently, we have provided a full valuation allowance for all jurisdictions except Germany as we have determined that, due to uncertainties and other considerations related to our current operations and our expectations of future operations, it is more likely than not that our deferred tax assets generated from net operating loss carryforwards will not be realized. Our provision for income taxes could be favorably impacted during 2009 if our results of operations and forecasts for future profitability improve sufficiently to indicate that the related deferred tax assets will be realized. Such a change in management's expectations could result in a future material change to our valuation allowance assessment and the resulting future income tax provision.

Years Ended December 31, 2007 and 2006

The following table sets forth our consolidated results of operations for the years ended December 31, 2007 and 2006, and the year-over-year increase (decrease) in our results, expressed in both amounts (in thousands) and as a percentage of net sales, except where indicated:

	Year Ended December 31,				Increase (Decrease)	
	2007		2006			
Net sales	\$ 267,286	100.0 %	\$ 281,781	100.0 %	\$ (14,495)	(5.1) %
Cost of sales	144,075	53.9	172,720	61.3	(28,645)	(16.6)
Gross profit	123,211	46.1	109,061	38.7	14,150	13.0
Operating expenses:						
Research, development and engineering	34,116	12.7	28,314	10.0	5,802	20.5
Selling, general and administrative	64,343	24.1	62,523	22.2	1,820	2.9
Amortization of intangibles	511	0.2	688	0.2	(177)	(25.7)
Gain on disposition of Wet business	-	-	(572)	(0.2)	572	(100.0)
Impairment of intangibles	-	-	2,618	0.9	(2,618)	(100.0)
Total operating expenses	98,970	37.0	93,571	33.2	5,399	5.8
Income from operations	24,241	9.1	15,490	5.5	8,751	56.5
Interest income	7,037	2.6	5,448	1.9	1,589	29.2
Interest expense	(31)	(0.0)	(197)	(0.1)	166	(84.3)
Other income (expense), net	1,207	0.4	467	0.2	740	158.5
Income before income taxes	32,454	12.1	21,208	7.5	11,246	53.0
Provision (benefit) for income taxes	4,901	1.8	4,094	1.4	807	19.7
Net income	\$ 27,553	10.3 %	\$ 17,114	6.1 %	\$ 10,439	61.0 %

Sales. The decrease in net sales in 2007 compared with 2006 was primarily due to an \$18.1 million decrease in system sales, or 7.7 percent, and a \$0.6 million decrease in service and spare parts sales, or 1.5 percent. Our net sales for 2007 also included \$11.5 million of royalty revenue from Dainippon Screen Manufacturing Co., Ltd. (DNS), compared with \$7.5 million for 2006. The sales decline in 2007 reflected the overall decline in capital spending by semiconductor manufacturers. In 2007, we received business from leading semiconductor manufacturers in all regions we serve — China, Europe, Japan, Korea, Singapore, Taiwan and the United States.

International sales, predominantly to customers based in Europe and Asia, including China, Japan, Korea, Singapore and Taiwan, accounted for 92 percent of net sales in 2007, compared to 89 percent for 2006. We anticipate that international sales will continue to account for a significant portion of our net sales.

Gross Profit and Gross Profit Margin. The increase in gross profit for 2007 compared with 2006 was primarily due to net recognition of \$11.4 million in previously deferred systems revenue in accordance with our revenue recognition policy. Our gross profit for 2007 included \$11.5 million of royalty revenue received from DNS, compared with \$7.5 million for 2006. The royalty revenue carries no associated cost of sales.

Gross profit margin increased by 7.4 percentage points in 2007 compared to 2006, 4.2 percentage points of which was due to net recognition of previously deferred systems revenue in accordance with our revenue recognition policy, 1.0 percentage point of which was due to higher gross profit margin related to systems sales, 1.7 percentage points of which was due to DNS royalties and 0.5 percentage point of which was due to higher gross profit margin from service and spare parts sales.

Research, Development and Engineering. The increase in RD&E expenses in 2007 compared with 2006 was primarily due to increased activity in 2007 to expand our portfolio of products capable of addressing stringent sub-45 nm requirements.

Selling, General and Administrative. The increase in SG&A expenses in 2007 compared with 2006 was primarily the result of a \$5.1 million increase in employee compensation and a \$1.2 million increase in stock-based compensation as determined in accordance with SFAS No. 123(R), *Share-Based Payment*, which were partially offset by a \$1.6 million decrease related to the release of amounts previously accrued upon completing all remaining obligations under a foreign government-funded capital development project, a \$1.6 million decrease of accounts receivable that were collected during the period and were previously reserved, and a \$1.1 million decrease in outside services. As a percentage of net sales, our SG&A expenses increased in 2007 compared to 2006 because of the increased SG&A spending in 2007 and a decrease in net sales in 2007.

Amortization of Intangibles. Amortization expenses in 2007 and 2006 were due to our acquisition of Vortek in October 2004.

Gain on Disposition of Wet Business. In 2006, we concluded all activities related to the disposition of the Wet business, and released an over-accrual of \$0.6 million upon completion of our obligations under the sale of the Wet business.

Interest and Other Income (Expense), Net. Interest income increased in 2007 compared with 2006 due to higher cash investment balances in 2007. Interest expense for 2007 and 2006 was minimal. The \$0.7 million increase in other income, net in 2007 compared with 2006 was primarily due to a \$0.6 million increase due to foreign currency translation and a \$0.1 million increase in net gains on forward foreign exchange contracts settled in 2007.

Provision for Income Taxes. The provision for income taxes in 2007 primarily consisted of a \$0.2 million provision for Federal and state income taxes and a \$4.7 million provision for foreign taxes. The provision for income taxes in 2006 primarily consisted of a \$2.3 million provision for Federal and state income taxes, a \$1.3 million provision for taxes in Germany and a provision of \$0.5 million for other foreign taxes.

Stock-based Compensation

During the years ended December 31, 2008, 2007 and 2006, we recorded \$3.5 million, \$3.2 million and \$2.0 million, respectively, of stock-based compensation related to stock options. As of December 31, 2008, there was \$5.1 million of unrecorded deferred stock-based compensation, after estimated forfeitures, related to stock options, which will be recognized over an estimated weighted-average amortization period of 2.6 years. During the years ended December 31, 2008, 2007 and 2006, we recorded \$0.1 million, \$0.1 million and \$0.1 million, respectively, of stock-based compensation related to our employee stock purchase plan and \$0.8 million, \$0.6 million and \$0.4 million, respectively, of compensation cost related to restricted stock units. Compensation cost for a restricted stock unit is determined based on the grant date fair value of the shares of common stock, and is recognized on a straight-line basis over the requisite service period. As of December 31, 2008, there was \$1.3 million of unrecorded deferred stock-based compensation, after estimated forfeitures, related to non-vested restricted stock units granted under the

subject to examination by applicable tax authorities. Included in the balance of unrecognized tax benefits at December 31, 2008 is \$2.8 million related to tax positions and estimated interest and penalties for which it is reasonably possible that the statute of limitations will expire in various foreign jurisdictions within the next twelve months.

In connection with the acquisition of Vortek Industries, Ltd (“Vortek”) in 2004, we became party to an agreement between Vortek and the Canadian Minister of Industry (the Minister) relating to an investment in Vortek by Technology Partnerships Canada. Under that agreement, as amended, Mattson Technology, Inc. or Vortek (renamed Mattson Technology, Canada, Inc. or “MTC”) agreed to various covenants, including (a) payment by us of a royalty to the Minister of 1.4 percent of revenues from Flash RTP products, up to a total of CAD 14,269,290 (approximately \$11.7 million at December 31, 2008), (b) MTC maintaining a specified average workforce of employees in Canada through October 27, 2009, (c) investment of a certain amount by October 27, 2009 and certain other covenants concerning protection of intellectual property rights and manufacturing obligations. If we, or MTC, do not materially satisfy our covenants, the Minister may demand payment of liquidated damages in the amount of CAD 14,269,290 less any royalties paid by MTC or us to the Minister. We have been providing annual reports to the Canadian Government on the status of the entity and believe we are materially in compliance with these covenants.

Off-Balance Sheet Arrangements

As of December 31, 2008, we do not have any significant “off-balance sheet” arrangements as defined in Item 303 (a)(4)(ii) of Regulation S-K.

Legal Settlement

On March 5, 2002, a jury in San Jose, California rendered a verdict in favor of our subsidiary, Mattson Wet Products, Inc. (formally CFM Technologies, Inc.), in a patent infringement suit against Dainippon Screen Manufacturing Co., Ltd. (DNS), a Japanese manufacturer of semiconductor wafer processing equipment. On June 24, 2002, we entered into a settlement agreement and a license agreement with DNS, under which DNS agreed to make payments totaling between \$75 million (minimum) and \$105 million (maximum), relating to past damages, partial reimbursement of attorney fees and costs and license fees. As of December 31, 2008, DNS has made payments aggregating \$95.1 million under the terms of the settlement and license agreements. The agreement has expired and no further payments are anticipated.

In May 2008, DNS paid us the final royalty payment under the license agreement of \$6.4 million for royalties due through January 15, 2008. We recognized \$6.4 million, \$11.5 million and \$7.5 million of royalty revenue from DNS for the years ended December 31, 2008, 2007 and 2006, respectively, which is recognized as net sales in the consolidated income statements.

Liquidity and Capital Resources Outlook

As of December 31, 2008, we had cash, cash equivalents and short-term investments of \$103.4 million. We believe that these balances will be sufficient to fund our working and other capital requirements over the course of the next twelve months. We will continue to review our expected cash requirements, and plan to take appropriate cost reduction measures to ensure that we have at least six to eight quarters of available cash. In the normal course of business, we evaluate the merits of acquiring technology or businesses, or establishing strategic relationships with or investing in these businesses. We may use available cash and cash equivalents and marketable security investments to fund such activities in the future. In the event additional needs for cash arise, we may raise additional funds from a combination of sources including the potential issuance of debt or equity securities. Additional financing may not be available on terms favorable to us, or at all. If adequate funds are not available or are not available on acceptable terms, our ability to take advantage of unanticipated opportunities or respond to competitive pressures could be limited.

Cash Flows from Operating Activities

Net cash used in operations of \$42.8 million in 2008 was primarily due to a net loss of \$92.2 million, non-cash charges of \$51.5 million and a \$2.1 million decline in assets and liabilities. The decline in net assets of \$2.1 million represented a \$16.4 million decrease in accounts payable and accrued liabilities, a \$9.0 million increase in inventories, a \$3.5 million decrease in deferred revenue, and a \$1.2 million decrease in other liabilities, partially offset by a \$20.7 million decrease in accounts receivable and advanced billings, a \$5.1 million decrease in prepaid expenses and other current assets, and a \$2.2 million decrease in other assets. Non-cash charges of \$51.5 million, represented \$27.5 million in impairments of goodwill, intangibles and long-lived assets, \$9.1 million in depreciation and amortization charges, \$7.1 million in inventory valuation charges, \$4.4 million in stock-based compensation, and \$3.4 million in allowance for doubtful accounts. The increase in inventory was primarily for new product inventory, evaluation inventory shipped to customers, inventory transfers to property, plant and equipment and increases in spares inventory for customer satisfaction purposes. Approximately 21 percent of our inventory balances relate to evaluation tools already placed in the field in customer fabrication plants. Spares inventory represents 25 percent of our inventory balances. A portion of the increase in inventory consists of \$3 million in inventory transfers to property, plant and equipment at our research and development facilities. The decrease in accounts payable, accrued liabilities and accounts receivable is indicative of our declining revenue volumes. The decrease in prepaid expenses of \$5.1 million was primarily due to decreases in our prepaid value added tax balances as we received tax refunds.

Net cash provided by operations of \$48.7 million in 2007 was primarily due to net income of \$27.6 million, a \$28.9 million decrease in accounts receivable and advanced billings, a \$5.7 million increase in other liabilities, a \$1.9 million decrease in inventories – delivered systems, \$6.5 million in depreciation and \$3.9 million in stock-based compensation, partially offset by a \$13.3 million decrease in accounts payable and accrued liabilities, a \$6.1 million increase in inventories, a \$5.2 million decrease in deferred revenue and a \$1.0 million reduction in allowance for doubtful accounts.

Net cash provided by operations of \$13.8 million in 2006 was primarily due to net income of \$17.1 million, depreciation and amortization charges of \$6.5 million, non-cash charges of \$2.6 million for impairment of intangibles and \$2.4 million for stock-based compensation, an increase in accounts payable and accrued liabilities of \$8.2 million, an increase in deferred revenue of \$4.3 million, a decrease in prepaid expenses and other current assets of \$2.8 million and inventory valuation charges of \$1.7 million, partially offset by an increase in accounts receivable of \$26.8 million due to record sales in the fourth quarter of 2006 and an increase in inventories of \$6.8 million.

We expect that cash provided by operating activities may fluctuate in future periods as a result of a number of factors, including fluctuations in our net sales and operating results, amount of revenue deferred, inventory purchases, collection of accounts receivable and timing of payments.

Cash Flows from Investing Activities

Net cash used in investing activities of \$7.0 million in 2008 was primarily due to purchases of available-for-sale investments of \$30.6 million and capital spending of \$8.8 million, partially offset by proceeds from sales and maturities of available-for-sale investments of \$31.5 million. Our capital spending in 2008 was primarily due to additions of laboratory tools and equipment used in our RD&E activities.

Net cash provided by investing activities of \$11.3 million in 2007 was primarily due to proceeds from sales and maturities of available-for-sale investments of \$61.6 million and proceeds from sales of property and equipment of \$0.5 million, partially offset by purchases of available-for-sale investments of \$40.4 million and capital spending of \$10.3 million. Our capital spending in 2007 was primarily due to additions of technology used in our RD&E activities.

Net cash used in investing activities of \$46.3 million in 2006 was primarily due to purchases of available-for-sale investments of \$51.6 million and capital spending of \$12.0 million, partially offset by proceeds from sales and maturities of available-for-sale investments of \$16.7 million. Our capital spending in 2006 was primarily due to additions of technology used in our RD&E activities.

Cash Flows from Financing Activities

Net cash used in financing activities in 2008 was \$1.9 million, which was due to repurchases of our stock of \$2.6 million, partially offset by net proceeds from stock plans of \$0.7 million. Net cash used in financing activities in 2007 was \$29.6 million, which was primarily attributable to repurchases of our stock of \$32.4 million, partially offset by net proceeds of \$2.8 million from stock plans. Net cash provided by financing activities of \$3.9 million in 2006 consisted of \$3.9 million in proceeds from stock plans.

Critical Accounting Policies and Use of Estimates

Management's Discussion and Analysis of Financial Condition and Results of Operations discusses our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. On an on-going basis, management evaluates its estimates and judgments, including those related to reserves for excess and obsolete inventory, warranty obligations, bad debts, goodwill, intangible assets, income taxes, restructuring costs, contingencies and litigation. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances. These form the basis for making judgment about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We consider certain accounting policies related to revenue recognition, allowance for doubtful accounts, warranty obligations, inventories, goodwill and other intangible assets, impairment of long-lived assets, restructuring, income taxes and stock-based compensation as critical to our business operations and an understanding of our results of operations. See Note 2 of the accompanying consolidated financial statements for a summary of our significant accounting policies.

Revenue Recognition. We recognize revenue in accordance with SEC Staff Accounting Bulletin No. 104, *Revenue Recognition in Financial Statements*. We account for equipment sales as follows: 1) for equipment sales of existing products with new specifications and for all sales of new products, revenue is recognized upon customer acceptance; 2) for equipment sales to existing customers who have purchased the same equipment with the same specifications and previously demonstrated acceptance provisions, or equipment sales to new customers purchasing existing products with established reliability, we recognize revenue on a multiple element approach in which we bifurcate a sale transaction into two separate elements based on objective evidence of fair value. The two elements are the tool and installation of the tool. Under this approach, the portion of the invoice price that is due upon shipment, generally 90 percent of the total invoice price, is recognized as revenue upon shipment and title transfer of the tool; 100 percent of the costs of the tool are recognized at shipment and the remaining portion of the total invoice price, generally 10 percent of the total invoice price, which is due once installation services have been accepted, is not recognized as revenue until final customer acceptance of the tool. From time to time, however, we allow customers to evaluate systems, and since customers can return such systems at any time with limited or no penalty, we do not recognize revenue until the customers accept these evaluation systems. In 2006 and earlier periods, revenues associated with sales to customers in Japan were recognized upon title transfer, which generally occurred upon customer acceptance, with the exception of sales of RTP products through our distributor in Japan, where we recognized revenues upon title transfer to the distributor. In December 2006, we expanded our distributor relationship in Japan to cover all our products. Under the new distributor agreement, revenues are recognized upon title transfer, which occurs upon shipment to the distributor. For spare parts, we recognize revenue upon shipment. We recognize service and maintenance contract revenue on a straight-line basis over the service period of the related contract. Accounts receivable for which revenue has not been recognized are classified as advance billings in the accompanying consolidated balance sheets.

In all cases, revenue is only recognized when persuasive evidence of an arrangement exists, delivery has occurred, the price is fixed or determinable and collectability is reasonably assured.

Allowance for Doubtful Accounts. We maintain an allowance for estimated losses resulting from the inability of our customers to make required payments. This reserve is established based on historical trends, current economic conditions, delinquency status based on contractual terms and an analysis of specific exposures. If the financial condition of our customers were to deteriorate, or if a customer was unable to make any payments, additional allowances may be required. Our allowance for bad debts increased from \$1.5 million in 2007 to \$4.6 million in 2008, principally due a change in estimate related to the collectability of certain receivables caused by bankruptcy of customers and worsening financial credit situations of some of our other customers.

Warranty. The warranty we offer on system sales generally ranges from 12 months to 36 months, depending on the product. In 2007, we transitioned our warranty period to 12 months for most systems sales, except where previous customer agreements stated otherwise. In 2007, we also changed the coverage provided by the warranty to exclude certain consumable maintenance items.

A provision for the estimated cost of warranty, based on historical costs, is recorded as a cost of sale when the revenue is recognized for the sale of the equipment or parts. Our warranty obligations require us to repair or replace defective products or parts, generally at a customer's site, during the warranty period at no cost to the customer. The actual system performance and/or field expense profiles may differ from historical experience, and in those cases we adjust our warranty accruals accordingly. Actual warranty reserves and settlements against reserves are highly dependent on our system volumes, and workforce availability and utilizations. While our warranty costs have historically been within our expectations and the provisions we have established, we cannot be certain that we will continue to experience the same warranty costs that we have had in the past.

Inventories. Inventories are stated at the lower of cost or market, with cost determined on a first-in, first-out basis, and include material, labor and manufacturing overhead costs. Finished goods are reported as inventories until the point of title transfer to the customer. Under our general terms of sale, title transfers when we complete physical transfer of the products to the freight carrier unless other customer practices prevail. All intercompany profits related to the sales and purchases of inventory between our legal entities are eliminated from the consolidated financial statements.

Our policy is to assess the valuation of all inventories, including manufacturing raw materials, work-in-process, finished goods and spare parts, in each reporting period. Although we attempt to accurately forecast future inventory demand, given the competitive pressures and cyclicity of the semiconductor industry, there may be significant unanticipated changes in demand or technological developments that could have a significant impact on the value of our inventories and reported operating results.

Inventory Valuation. The carrying value of inventory is reduced for estimated excess and obsolescence by the difference between its cost and the estimated market value based upon assumptions about future demand. We evaluate the inventory carrying value for potential excess and obsolete inventory exposures by analyzing historical and anticipated demand. In addition, inventories are evaluated for potential obsolescence due to the effect of known and anticipated engineering change orders and new products. If actual demand were to be substantially lower than estimated, additional inventory adjustments for excess or obsolete inventory might be required, which could have a material adverse effect on our business, financial condition and results of operations. We recorded inventory valuation charges of \$7.1 million in 2008, \$0.3 million in 2007 and \$1.7 million in 2006. Inventory includes evaluation tools placed at customer sites as part of our marketing efforts. We amortize the cost of evaluation tools placed at customer sites over a two to three year period and charge the costs to SG&A expenses. We recorded amortization charges on our evaluation tools of \$4.6 million in 2008 and \$2.3 million in 2007.

Fair Value Measurements of Assets and Liabilities. We adopted SFAS No. 157, *Fair Value Measurements* for all financial assets and financial liabilities and for all non-financial assets and non-financial liabilities recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually). SFAS No. 157 defines fair value, establishes a framework for measuring fair value, and enhances fair value measurement disclosure. The adoption of SFAS No. 157 did not have a significant impact on the our financial statements, and the resulting fair values calculated under SFAS No. 157 after adoption were not significantly different than the fair values that would have been calculated under previous guidance. See Note 3 to the accompanying financial statements for further details on fair value measurements.

Goodwill and Other Intangible Assets. We review our goodwill and intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable, and we also review goodwill annually in accordance with SFAS No. 142, *Goodwill and Other Intangible Assets*, such as purchased technology, are generally recorded in connection with business acquisitions. The value assigned to goodwill and intangible assets is usually based on estimates and judgments regarding expectations for the success and life cycle of products and technology acquired.

We are required to test our goodwill for impairment at the reporting unit level, at least annually. We have determined that we have only one reporting unit. The test for goodwill impairment is a two-step process. The first step compares the fair value of our reporting unit with its carrying amount, including goodwill. If the fair value of our reporting unit exceeds its carrying amount, goodwill of our reporting unit is considered not to be impaired, thus the second step of the impairment test is unnecessary. The second step, used to measure the amount of impairment loss, compares the implied fair value of our reporting unit goodwill with the carrying amount of that goodwill. If the carrying amount of our reporting unit goodwill exceeds the implied fair value of that goodwill, an impairment loss is recognized in an amount equal to that excess. See Note 5 to the accompanying financial statements for further detail on goodwill impairment.

Impairment of Long-Lived Assets. Pursuant to SFAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*, we review our long-lived assets, including property and equipment, intangibles and other long-lived assets, for impairment whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. Recoverability is measured by a comparison of the assets' carrying amount to their expected future undiscounted net cash flows. If such assets are considered to be impaired, the impairment is measured based on the amount by which the carrying amount of the asset exceeds its fair value. See Note 5 to the accompanying financial statements for further detail on impairment of intangibles and Note 4 for further detail on impairment of long-lived assets.

Restructuring. We record costs associated with employee terminations and other exit activity in accordance with SFAS No. 146, *Accounting for Costs Associated with Exit or Disposal Activities*, and SEC Staff Accounting Bulletin No. 100, *Restructuring and Impairment Charges*. Under SFAS No. 146, we record employee termination benefits as an operating expense when the benefit arrangement is communicated to the employee and no significant future services are required. If employees were required to render service until they are terminated in order to receive the termination benefits, the fair value of the liability measured on termination date would be recognized ratably over the future service period. The costs of severance are determined by local statutory requirements and company policies. For some entities, where salaries are paid during the notice period, a portion of the severance reserves would be based on estimates of the ability to find employment during the notice period, and we would determine the reserves in accordance with these estimates.

We recognize the present value of facility lease termination obligations, net of estimated sublease income and other exit costs, when we have future lease payments with no future economic benefit. In future periods we will record accretion expense to increase the liability to an amount equal to the estimated future cash payments necessary to exit the leases. This requires a significant amount of judgment and management estimation in order to determine the expected time frame it will take to secure a subtenant, the amount of sublease income to be received and the appropriate discount rate to calculate the present value of the future cash flows. Should actual lease exit costs differ from estimates, we will adjust the restructuring charge, which would impact net income in the period any adjustment was recorded. For more information on restructuring charges refer to Note 6 in the accompanying consolidated financial statements.

Income Taxes. In June 2006, the FASB issued FASB Interpretation No. (FIN) 48, *Accounting for Uncertainty in Income Taxes: An Interpretation of FASB Statement No. 109*. FIN 48 became effective for us beginning in 2007. FIN 48 addressed the determination of how tax benefits claimed or expected to be claimed on a tax return should be recorded in the financial statements. Under FIN 48, we must recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a

position are measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate resolution. The impact of our reassessment of our tax positions in accordance with FIN 48 resulted in a cumulative effect of adoption of \$0.7 million, which was recorded as an increase in our accumulated deficit in the first quarter of 2007.

For all tax jurisdictions with the exception of our German operations, we recorded a 100 percent valuation allowance against our net deferred tax asset as we expect it is more likely than not that we will not realize our net deferred tax asset as of December 31, 2008. In assessing the need for a valuation allowance, we consider historical levels of income and losses, expectations and risks associated with estimates of future taxable income and ongoing prudent and feasible tax planning strategies. In the event we determine that we would be able to realize additional deferred tax assets in the future in excess of the net recorded amount, or if we subsequently determine that realization of an amount previously recorded is unlikely, we would record an adjustment to the deferred tax asset valuation allowance, which would change income in the period of adjustment.

Stock-based Compensation. Effective January 1, 2006, we adopted SFAS No. 123 (revised 2004), *Share-Based Payment*. Total share-based compensation for the years ended December 31, 2008, 2007 and 2006 was \$4.4 million, \$3.9 million and \$2.4 million, respectively. For more information on stock-based compensation costs for 2008, 2007 and 2006, refer to Note 11 in the accompanying consolidated financial statements.

Determining the appropriate fair-value model and calculating the fair value of employee stock options, restricted stock awards and rights to purchase shares under employee stock purchase plans at the date of grant requires judgment. We use the Black-Scholes option pricing model to estimate the fair value of these share-based awards consistent with the provisions of SFAS No. 123(R). Option pricing models, including the Black-Scholes model, require the use of input assumptions, including expected volatility, expected life, expected dividend rate and expected risk-free rate of return. The assumptions for expected volatility and expected life are the two assumptions that significantly affect the grant date fair value. The expected dividend rate and expected risk-free rate of return are not significant to the calculation of fair value.

We use historical volatility based on past performance of our common stock to estimate expected volatility, as we believe historical volatility is an appropriate indicator of expected future volatility. If we determine that another method to estimate expected volatility or expected life is more reasonable than our current methods, or if another method for calculating these input assumptions is prescribed by authoritative guidance, the fair value calculated for share-based awards could change significantly. Higher volatility and expected lives result in an increase to share-based compensation determined at the date of grant.

In addition, SFAS No. 123(R) requires us to develop an estimate of the number of share-based awards, which will be forfeited due to employee turnover. Changes in the estimated forfeiture rate can have a significant effect on reported share-based compensation, as the effect of adjusting the rate for all expense amortization after January 1, 2006 is recognized in the period the forfeiture estimate is changed. The effect of forfeiture adjustments in 2008, 2007, and 2006 was insignificant. The expense we recognize in future periods could also differ significantly from the current period and/or our forecasts due to adjustments in the assumed forfeiture rates.

We granted performance based restricted stock units to certain executives, officers and senior-level management during the first quarter of 2008. The fair value of the performance-based restricted stock units with market conditions was determined using a Monte Carlo valuation methodology with the assumptions on the volatility of our common stock, dividend yield and risk-free interest rate. The fair value of the performance-related component of the performance shares was equivalent to the grant-date fair value of our common stock. These restricted stock units vest in four equal tranches upon the achievement of four sequentially increasing revenue performance targets. Vesting is also contingent upon certain operating profit margin and stock price thresholds being met. We recognize the compensation cost if we determine that the performance targets are capable of being met. During the first quarter, we determined that the performance targets are capable of being met, but with the change in market conditions in the fourth quarter, we determined that it was not probable that the performance

targets would be met by the specified dates. We have not recorded any stock based compensation expense for these performance based restricted stock units.

New Accounting Pronouncements

In December 2007, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standard (SFAS) No. 141R, *Business Combinations*. This standard establishes principles and requirements for how an acquirer recognizes and measures in its financial statements the identifiable assets acquired, the liabilities assumed, any non-controlling interest in the acquiree and the goodwill acquired in a business combination. This standard also establishes disclosure requirements that will enable users to evaluate the nature and financial effects of a business combination. SFAS No. 141R is effective for our acquisitions made after December 31, 2008. We do not anticipate that the adoption of this pronouncement will have a significant impact on our financial statements, however, the implementation of SFAS No. 141R may have a material impact on financial statements for businesses acquired by us post-adoption.

In the first quarter of 2008, we adopted SFAS No. 157, *Fair Value Measurements* for all financial assets and financial liabilities and for all non-financial assets and non-financial liabilities recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually). SFAS No. 157 defines fair value, establishes a framework for measuring fair value, and enhances fair value measurement disclosure. The adoption of SFAS No. 157 did not have a significant impact on our financial statements, and the resulting fair values calculated under SFAS No. 157 after adoption were not significantly different than the fair values that would have been calculated under previous guidance. See Note 3 to the accompanying financial statements for further details on fair value measurements.

In February 2008, the FASB issued FASB Staff Position, (FSP) 157-1, *Application of FASB Statement No. 157 to FASB Statement No. 13 and Other Accounting Pronouncements That Address Fair Value Measurements for Purposes of Lease Classification or Measurement under Statement 13*. FSP 157-1 amends SFAS No. 157 to remove certain leasing transactions from its scope. In February 2008, the FASB issued FSP No. 157-2, *Effective Date of FASB Statement No. 157*. FSP No. 157-2 delays the effective date of SFAS No. 157 for all non-financial assets and non-financial liabilities, except for items that are recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually), and is effective for financial statements issued for fiscal years beginning after November 15, 2008. We are currently evaluating the impact that SFAS No. 157 will have on our consolidated financial statements beginning in the first quarter of 2009.

In April 2008, the FASB issued FSP No. 142-3, *Determination of the Useful Life of Intangible Assets*. FSP No. 142-3 amends the factors that should be considered in developing assumptions about renewal or extension used in estimating the useful life of a recognized intangible asset under SFAS No. 142, *Goodwill and Other Intangible Assets*. This standard is intended to improve the consistency between the useful life of a recognized intangible asset under SFAS No. 142 and the period of expected cash flows used to measure the fair value of the asset under SFAS No. 141R and other Generally Accepted Accounting Principles (GAAP). FSP No.142-3 is effective for financial statements issued for fiscal years beginning after December 15, 2008. The measurement provisions of this standard will apply only to our intangible assets acquired after January 1, 2009.

In May 2008, the FASB issued SFAS No. 162, *The Hierarchy of Generally Accepted Accounting Principles*. SFAS No. 162 supersedes the existing hierarchy contained in the U.S. auditing standards. The existing hierarchy was carried over to SFAS No. 162 essentially unchanged. The Statement becomes effective 60 days following the Securities and Exchange Commission's approval of the Public Company Accounting Oversight Board amendments to the auditing literature. The new hierarchy is not expected to change current accounting practice in any area.

In June 2008, the FASB issued FASB Staff Position (FSP) No. EITF 03-6-1, *Determining Whether Instruments Granted in Share-Based Payment Transactions Are Participating Securities*. EITF 03-6-1 addresses whether instruments granted in share-based payment transactions are participating securities prior to vesting and, therefore, need to be included in the earnings allocation in computing earnings per share (EPS) under the two-class method described in FASB Statement No. 128, *Earnings per Share*. This pronouncement is effective for financial statements issued for fiscal years beginning after December 15, 2008. We are currently evaluating the impact that FSP No. EITF 03-6-1 will have on our financial statements beginning in the first quarter of 2009.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to financial market risks, including changes in foreign currency exchange rates and changes in interest rates.

Interest Rate Risk

Our exposure to market risk for changes in interest rates relates to our investment portfolio of cash, cash equivalents, and short-term investments. We do not currently use derivative financial instruments in our investment portfolio, nor hedge for these interest rate exposures. We place our investments with high credit quality issuers and, by policy, limit the amount of our credit exposure to any one issuer. Our portfolio includes only marketable securities with active secondary or resale markets to ensure portfolio liquidity.

Our interest rate risk relates primarily to our investment portfolio, which consisted of \$54.2 million in cash equivalents and \$26.3 million in short-term investments as of December 31, 2008. An immediate increase in interest rates of 100 basis points would not have a material adverse affect on the fair value of our investment portfolio. Conversely, because of the short-term nature of our portfolio, an immediate decline of 100 basis points in interest rates could harm interest earnings of our investment portfolio in the future as securities mature. By policy, we limit our exposure to longer-term investments. About 95 percent of our short-term investments at December 31, 2008, mature in less than one year.

Foreign Currency Risk

Historically, much of our revenues and capital spending has been transacted in U.S. dollars. The functional currencies of our foreign subsidiaries are their local currencies. Accordingly, all assets and liabilities of these foreign operations are translated using exchange rates in effect at the end of the reporting period, and revenues and costs are translated using average exchange rates for the period. Gains or losses from translation of foreign operations where the local currencies are the functional currency are included as a component of accumulated other comprehensive income/(loss). Foreign currency transaction gains and losses are recognized in the consolidated statements of operations as they are incurred. Because much of our revenues and capital spending are transacted in U.S. dollars, and a significant percentage of our expenses are incurred in Euros and Canadian dollars, we are subject to fluctuations in foreign currency exchange rates that could materially adversely affect our overall financial position, results of operations or cash flows, depending on the strength of the U.S. dollar relative to the currencies of other countries in which we operate. During the year there have been significant fluctuations in the value of the U.S. dollar when compared to Euro and Canadian dollar. By the end of the year, the U.S. dollar when compared to the Euro had strengthened by about 3 percent during the twelve months ended December 31, 2008, and had strengthened by about 18 percent against the Canadian dollar. Other expense, net for the twelve months ended December 31, 2008 included a realized foreign currency exchange loss of \$0.7 million, compared to gains of \$0.5 million for the same period in 2007.

Cumulative translation adjustments included in comprehensive income during 2008 were \$1.6 million primarily due to the fluctuations of the U.S. dollar against other currencies during 2008, which favorably impacted the net assets used in our foreign operations and held in local currencies, resulting in an increase in cumulative translation adjustments to \$20.5 million at December 31, 2008, compared to \$18.8 million at December 31, 2007.

During 2007 and 2006, we employed a foreign currency hedging program, utilizing foreign currency forward exchange contracts, to hedge foreign currency fluctuations associated with Japanese Yen denominated firm purchase commitments and accounts receivable balances. The goal of the hedging program was to hedge against foreign currency fluctuations associated with the sales of systems to Japan and the revaluation gains (losses) of foreign denominated accounts receivable. Under SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities*, these forward contracts did not qualify as designated hedges. All outstanding forward foreign currency contracts were marked to market with the resulting unrealized gains (losses) recorded in other income (expense), net. We did not use foreign currency forward exchange contracts for speculative or trading purposes.

At December 31, 2008 and 2007, we had no outstanding forward foreign exchange contracts. At December 31, 2006, we had one outstanding forward foreign exchange contract for the purchase in total of \$23.7 million in exchange for 2.8 billion Japanese Yen. Recording the fair value of this contract as of December 31, 2006 resulted in an unrealized gain of \$0.1 million, which was charged to the consolidated income statement in 2006. With respect to forward foreign currency exchange contracts, we recorded a net gain of \$0.2 million for 2007, and a net gain of \$0.6 million in 2006 in other income (expense), net. There were no gains or losses arising out of foreign exchange contracts during the twelve months ended December 31, 2008.

Item 8. *Financial Statements and Supplementary Data*

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**MATTSON TECHNOLOGY, INC.
CONSOLIDATED BALANCE SHEETS**

ASSETS	December 31,	
	2008	2007
	(thousands, except par value)	
Current assets:		
Cash and cash equivalents	\$ 77,107	\$ 125,533
Short-term investments	26,280	27,034
Accounts receivable, net of allowance for doubtful accounts of \$4,606 and \$1,463 in 2008 and 2007	14,477	36,011
Advance billings	140	2,576
Inventories	48,410	51,073
Inventories - delivered systems	956	-
Prepaid expenses and other current assets	5,765	10,996
Total current assets	173,135	253,223
Property and equipment, net	27,144	28,600
Goodwill	-	18,076
Intangibles, net	-	7,080
Other assets	7,932	10,791
Total assets	\$ 208,211	\$ 317,770

LIABILITIES AND STOCKHOLDERS' EQUITY

Current liabilities:		
Accounts payable	\$ 7,205	\$ 18,097
Accrued liabilities	21,241	26,900
Deferred revenue	4,198	7,207
Total current liabilities	32,644	52,204
Income taxes payable, non-current	13,467	14,147
Other liabilities	5,264	6,136
Total liabilities	51,375	72,487

Commitments and contingencies (Note 9)

Stockholders' equity:

Preferred stock, 2,000 shares authorized; none issued and outstanding	-	-
Common stock, par value \$0.001, 120,000 shares authorized; 53,874 shares issued and 49,693 shares outstanding in 2008; 53,517 shares issued and 49,665 shares outstanding in 2007	54	54
Additional paid-in capital	628,632	623,527
Accumulated other comprehensive income	20,255	19,032
Treasury stock, 4,181 shares in 2008 and 3,852 shares in 2007, at cost	(37,986)	(35,374)
Accumulated deficit	(454,119)	(361,956)
Total stockholders' equity	156,836	245,283
Total liabilities and stockholders' equity	\$ 208,211	\$ 317,770

The accompanying notes are an integral part of these consolidated financial statements.

MATTSON TECHNOLOGY, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,		
	2008	2007	2006
	(thousands, except per share amounts)		
Net sales	\$ 133,551	\$ 267,286	\$ 281,781
Cost of sales	86,005	144,075	172,720
Gross profit	47,546	123,211	109,061
Operating expenses:			
Research, development and engineering	36,833	34,116	28,314
Selling, general and administrative	68,530	64,343	62,523
Amortization of intangibles	512	511	688
Gain on disposition of Wet business	-	-	(572)
Restructuring charges	5,989	-	-
Impairment of goodwill	18,076	-	-
Impairment of intangibles and long-lived assets	9,431	-	2,618
Total operating expenses	139,371	98,970	93,571
Income (loss) from operations	(91,825)	24,241	15,490
Interest income	3,292	7,037	5,448
Interest expense	(144)	(31)	(197)
Other income (expense), net	(1,175)	1,207	467
Income (loss) before income taxes	(89,852)	32,454	21,208
Provision for income taxes	2,311	4,901	4,094
Net income (loss)	\$ (92,163)	\$ 27,553	\$ 17,114
Net income (loss) per share:			
Basic	\$ (1.86)	\$ 0.53	\$ 0.33
Diluted	\$ (1.86)	\$ 0.52	\$ 0.32
Shares used in computing net income (loss) per share:			
Basic	49,471	51,771	52,357
Diluted	49,471	52,716	53,368

The accompanying notes are an integral part of these consolidated financial statements.

MATTSON TECHNOLOGY, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Shares of Common Stock	Common Stock and Additional Paid-In Capital	Accumulated Other Comprehensive Income	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity
				Shares	Amount		
Balance at December 31, 2005	52,370	\$ 610,597	\$ 8,181	(375)	\$ (2,987)	\$ (405,602)	\$ 210,189
Components of comprehensive income:							
Net income						17,114	17,114
Cumulative translation adjustments	-	-	5,274	-	-	-	5,274
Unrealized loss on investments	-	-	70	-	-	-	70
Comprehensive income							22,458
Exercise of stock options	501	3,351	-	-	-	-	3,351
Shares issued under employee stock purchase plan	59	524	-	-	-	-	524
Stock-based compensation expense	-	2,408	-	-	-	-	2,408
Balance at December 31, 2006	52,930	616,880	13,525	(375)	(2,987)	(388,488)	238,930
Cumulative effect of adopting							
new accounting principles (Note 2)	-	-	-	-	-	(1,021)	(1,021)
Adjusted Balance, January 1, 2007	52,930	616,880	13,525	(375)	(2,987)	(389,509)	237,909
Components of comprehensive income:							
Net income	-	-	-	-	-	27,553	27,553
Cumulative translation adjustments	-	-	5,345	-	-	-	5,345
Unrealized gain on investments	-	-	162	-	-	-	162
Comprehensive income							33,060
Shares issued under employee stock plans	496	2,080	-	-	-	-	2,080
Shares issued under employee stock purchase plan	91	737	-	-	-	-	737
Stock-based compensation expense	-	3,884	-	-	-	-	3,884
Repurchase of common stock	-	-	-	(3,477)	(32,387)	-	(32,387)
Balance at December 31, 2007	53,517	623,581	19,032	(3,852)	(35,374)	(361,956)	245,283
Components of comprehensive loss:							
Net loss						(92,163)	(92,163)
Cumulative translation adjustments	-	-	1,633	-	-	-	1,633
Unrealized gain on investments	-	-	(410)	-	-	-	(410)
Comprehensive loss							(90,940)
Shares issued under employee stock plans	108	37	-	-	-	-	37
Shares issued under employee stock purchase plan	249	702	-	-	-	-	702
Stock-based compensation expense	-	4,366	-	-	-	-	4,366
Repurchase of common stock	-	-	-	(329)	(2,612)	-	(2,612)
Balance at December 31, 2008	53,874	\$ 628,686	\$ 20,255	(4,181)	\$ (37,986)	\$ (454,119)	\$ 156,836

The accompanying notes are an integral part of these consolidated financial statements.

MATTSON TECHNOLOGY, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2008	2007	2006
Cash flows from operating activities:			
Net income (loss)	\$ (92,163)	\$ 27,553	\$ 17,114
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Allowance for doubtful accounts	3,355	(1,035)	552
Amortization of intangibles	512	511	688
Deferred taxes	-	(261)	1,281
Depreciation	8,585	6,499	5,813
Gain on disposition of Wet business	-	-	(572)
Impairment of goodwill	18,076	-	-
Impairment of intangibles and long-lived assets	9,431	-	2,618
Inventory valuation charge	7,053	271	1,659
Stock-based compensation	4,366	3,884	2,408
Other non-cash items	95	87	(151)
Changes in assets and liabilities:			
Accounts receivable	18,268	21,038	(26,769)
Advance billings	2,436	7,887	(318)
Inventories	(8,014)	(6,073)	(6,810)
Inventories - delivered systems	(956)	1,879	638
Prepaid expenses and other current assets	5,081	344	2,839
Other assets	2,176	(1,091)	(130)
Accounts payable	(11,095)	(1,906)	1,243
Accrued liabilities	(5,306)	(11,355)	6,981
Deferred revenue	(3,509)	(5,200)	4,318
Income taxes payable, non-current and other liabilities	(1,164)	5,716	400
Net cash provided by (used in) operating activities	(42,773)	48,748	13,802
Cash flows from investing activities:			
Purchases of available-for-sale investments	(30,633)	(40,422)	(51,635)
Sales and maturities of available-for-sale investments	31,450	61,578	16,746
Purchases of property and equipment	(8,764)	(10,334)	(11,971)
Sales of property and equipment	976	475	604
Net cash provided by (used in) investing activities	(6,971)	11,297	(46,256)
Cash flows from financing activities:			
Proceeds from stock plans	739	2,817	3,875
Purchases of treasury stock	(2,612)	(32,387)	-
Net cash provided by (used in) financing activities	(1,873)	(29,570)	3,875
Effect of exchange rate changes on cash and cash equivalents	3,191	3,642	3,402
Net increase (decrease) in cash and cash equivalents	(48,426)	34,117	(25,177)
Cash and cash equivalents, beginning of year	125,533	91,416	116,593
Cash and cash equivalents, end of year	\$ 77,107	\$ 125,533	\$ 91,416
Supplemental disclosures:			
Cash paid for interest	\$ -	\$ -	\$ 42
Cash paid for income taxes	\$ 29	\$ 940	\$ 617

The accompanying notes are an integral part of these consolidated financial statements.

MATTSON TECHNOLOGY, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
DECEMBER 31, 2008

1. Organization and Basis of Presentation

Organization

Mattson Technology, Inc. (the Company or Mattson) was incorporated in California on November 18, 1988. In September 1997, the Company was reincorporated in the State of Delaware.

The Company designs, manufactures and markets semiconductor wafer processing equipment used in “front-end-of-line” and “back-end-of-line” fabrication of integrated circuits to the semiconductor manufacturing industry worldwide.

Basis of Presentation

The consolidated financial statements include the accounts of the Company and its subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation. The Company’s year ends on December 31. The Company’s interim fiscal quarters end on the last Sunday in the calendar quarter.

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reported periods. Actual results could differ from those estimates.

Reclassifications

For presentation purposes, certain prior period amounts have been reclassified to conform to the reporting in the current period financial statements. These reclassifications do not affect the Company’s net income, cash flows or stockholders’ equity.

2. Summary of Significant Accounting Policies

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents. The Company’s cash and cash equivalents are carried at fair market value, and consist primarily of cash balances, high-grade money market funds and commercial paper.

Investments

The Company carries short-term investments, which primarily consist of United States agencies securities and United States corporate bonds, at fair market value. These investments are reported in accordance with the provisions of Statements of Financial Accounting Standards (SFAS) No. 115, *Accounting for Certain Investments in Debt and Equity Securities*. The Company classifies short-term investments as available-for-sale and they are reported at fair value, with unrealized gains and losses, net of tax, recorded in stockholders’ equity. The fair value of short-term investments is based on quoted market prices. Realized gains and losses and declines in fair value that are other than temporary are recorded in the consolidated income statements. Realized gains and losses are determined on a specific identification basis. At December 31, 2008, \$1.6 million in short-term investments had maturities of one to two years. The Company has recorded these investments as current as these investments are available for current operations and management’s intent is to realize these investments as required to fund current operations.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist principally of cash equivalents, short-term investments and trade accounts receivable.

The Company invests in a variety of financial instruments, such as United States agency securities, commercial paper, money market funds and corporate bonds. The Company limits the amount of credit exposure to any one financial institution or commercial issuer. To date, the Company has not experienced significant losses on these investments. The Company's trade accounts receivable are concentrated with companies in the semiconductor industry and are derived from sales in the United States, Japan, Korea, Taiwan, other Asian countries and Europe. At December 31, 2008, four customers accounted for 27 percent, 14 percent, 13 percent and 10 percent of the Company's accounts receivable. At December 31, 2007, three customers accounted for 27 percent, 12 percent and 10 percent of the Company's accounts receivable.

Allowance for Doubtful Accounts

The Company performs ongoing credit evaluations of its customers and records specific allowances for bad debts when a customer is unable to meet its financial obligations, as in the case of bankruptcy filings or deteriorated financial position. Estimates are used in determining allowances for all other customers based on factors such as current trends, the length of time the receivables are past due and historical collection experience. The Company writes off a receivable account when all rights, remedies and recourses against the account and its principals are exhausted and records a benefit when previously reserved accounts are collected. The Company recorded a provision of \$3.4 million in 2008, a benefit of \$1.0 million in 2007 and a provision of \$0.6 million in 2006 as allowance for doubtful accounts.

Fair Value Measurements of Assets and Liabilities

The Company adopted SFAS No. 157, *Fair Value Measurements* for all financial assets and financial liabilities and for all non-financial assets and non-financial liabilities recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually). SFAS No. 157 defines fair value, establishes a framework for measuring fair value, and enhances fair value measurement disclosure. The adoption of SFAS No. 157 did not have a significant impact on the Company's financial statements, and the resulting fair values calculated under SFAS No. 157 after adoption were not significantly different than the fair values that would have been calculated under previous guidance. See Note 3 for further details on fair value measurements.

Inventories

Inventories are stated at the lower of cost or market, with cost determined on a first-in, first-out basis, and include material, labor and manufacturing overhead costs. Finished goods are reported as inventories until the point of title transfer to the customer. Under the Company's terms of sale, title generally transfers when the Company completes physical transfer of the products to the freight carrier, unless other customer practices prevail. All intercompany profits related to the sales and purchases of inventory among the Company and its subsidiaries are eliminated from the consolidated financial statements.

Valuation adjustments to inventory inherently involve judgments as to assumptions about expected future demand and the impact of market conditions on those assumptions. The Company's policy is to assess the valuation of all inventories, including manufacturing raw materials, work-in-process, finished goods and spare parts, in each reporting period. The Company recorded inventory valuation charges of \$7.1 million in 2008, \$0.3 million in 2007 and \$1.7 million in 2006. Inventory includes evaluation tools placed at customer sites as part of the Company's marketing efforts. The Company's policy for evaluation tools is to amortize the cost over an estimated two to three years, which takes into consideration the estimated cost to refurbish the tool and the estimated net realizable value of the tool. These costs are charged to SG&A expenses. The Company recorded amortization charges on our evaluation tools of \$4.6 million in 2008 and \$2.3 million in 2007. Although the Company attempts to forecast future inventory demand, given the competitive pressures and cyclicity of the semiconductor industry, there may be significant unanticipated changes

in demand or technological developments that could have a significant impact on the value of the Company's inventories and reported operating results in future periods.

Property and Equipment

Property and equipment are stated at cost. Depreciation is computed using the straight-line method based upon the estimated useful lives of the assets, which range from three to seven years. Leasehold improvements are amortized using the straight-line method over the useful lives or the term of the related lease, whichever is shorter.

Depreciation expense was \$8.6 million, \$6.5 million and \$5.8 million for the years ended December 31, 2008, 2007 and 2006, respectively. When assets are retired or otherwise disposed of, the assets and related accumulated depreciation are removed from the accounts. Gains or losses resulting from asset sales are included in other income (expense), net in the accompanying consolidated income statements. Repair and maintenance costs are expensed as incurred.

Goodwill and Intangibles

The Company reviews its goodwill and intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable, and also reviews goodwill annually in accordance with SFAS No. 142, *Goodwill and Other Intangibles*. Goodwill and intangible assets, such as purchased technology, are generally recorded in connection with business acquisitions. The values assigned to goodwill and intangible assets are usually based on estimates and judgments regarding expectations for the success and life cycle of products and technologies acquired.

The Company is required to test its goodwill for impairment at the reporting unit level. The Company operates in one segment and has one reporting unit. The test for goodwill impairment is a two-step process. The first step compares the fair value of the reporting unit with its carrying amount, including goodwill. If the fair value of the reporting unit exceeds its carrying amount, goodwill of the reporting unit is considered not impaired, thus the second step of the impairment test is unnecessary. The second step, used to measure the amount of impairment loss, compares the implied fair value of the reporting unit goodwill with the carrying amount of that goodwill. If the carrying amount of goodwill exceeds the implied fair value of that goodwill, an impairment loss shall be recognized in an amount equal to that excess. See Note 5 of the Notes to the Consolidated Financial Statements for further details.

Impairment of Long-Lived Assets

Pursuant to SFAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*, the Company reviews its long-lived assets, including property and equipment and intangibles, for impairment whenever events or changes in circumstances indicate that the carrying amounts of these assets may not be recoverable. Recoverability is measured by a comparison of the assets' carrying amount to their expected future undiscounted net cash flows. If such assets are considered to be impaired, the impairment to be recognized is measured based on the amount by which the carrying amount of the asset exceeds its fair value. See Note 5 of the Notes to the Consolidated Financial Statements for further details.

Warranty

The warranty offered by the Company on its system sales is generally 12 months, except where previous customer agreements state otherwise, and excludes certain consumable maintenance items. A provision for the estimated cost of warranty, based on historical costs, is recorded as cost of sales when the revenue is recognized. The Company's warranty obligations require it to repair or replace defective products or parts, generally at a customer's site, during the warranty period at no cost to the customer. The actual system performance and/or field warranty expense profiles may differ from historical experience, and in those cases, the Company adjusts its warranty accruals accordingly. In 2008, the Company experienced lower accruals and warranty settlements when compared to prior years mainly as a result of fewer tools in warranty due to reduced sales volumes. In 2007, the Company experienced lower warranty settlements than in prior years, primarily due to a (1) shorter average warranty

period in 2007, due to the change to a 12 month warranty, (2) higher proportion of the systems being second generation 300mm systems which have a better performance history and (3) the exclusion of certain consumable parts from warranty in 2007.

The following table summarizes changes in the product warranty accrual for the years ended December 31, 2008, 2007 and 2006:

	Year Ended December 31,		
	2008	2007	2006
	(thousands)		
Balance at the beginning of the year	\$ 9,174	\$ 15,113	\$ 13,458
Accrual for warranties issued during the year	2,993	6,618	19,746
Changes in liability related to pre-existing warranties	688	(695)	-
Settlements made during the year	(8,474)	(11,862)	(18,091)
Balance at the end of the year	\$ 4,381	\$ 9,174	\$ 15,113

Sabbatical Leave Benefits

Pursuant to the Emerging Issues Task Force (EITF) conclusion on Issue No. 06-02, *Accounting for Sabbatical Leave and Other Similar Benefits Pursuant to FASB Statement No. 43, 'Accounting for Compensated Absences'*, the Company accrues for employee sabbatical leave over the service period in which employees earn the right to sabbatical leave. The Company adopted EITF No. 06-02 on January 1, 2007 as a change in accounting principle, and has recorded the cumulative effect of adoption of approximately \$0.4 million as an increase in the accumulated deficit in the first quarter of 2007, as permitted by the transition provisions of EITF No. 06-02. The Company develops its estimates for sabbatical leave based on the employee benefit policy, employee retention rates and restructuring activities.

Revenue Recognition

The Company derives revenue from two primary sources — equipment (tool) sales and spare part sales. The Company accounts for equipment sales in accordance with Securities and Exchange Commission (SEC) Staff Accounting Bulletin (SAB) No. 104, *Revenue Recognition in Financial Statements*, as follows: 1) for equipment sales of existing products with new specifications and for all sales of new products, revenue is recognized upon customer acceptance; 2) for equipment sales to existing customers who have purchased the same equipment with the same specifications and previously demonstrated acceptance provisions, or equipment sales to new customers purchasing existing products with established reliability, the Company recognizes revenue on a multiple element approach in which the Company bifurcates a sale transaction into two separate elements based on objective evidence of fair value. The two elements are the tool and installation of the tool. Under this approach, the portion of the invoice price that is due upon shipment, generally 90 percent of the total invoice price, is recognized as revenue upon shipment and title transfer of the tool; 100 percent of the costs are recognized upon shipment; and the remaining portion of the total invoice price, generally 10 percent of the total invoice price, which is due once installation services have been accepted, is not recognized as revenue until final customer acceptance of the tool. From time to time, however, the Company allows customers to evaluate systems, and since customers can return such systems at any time with limited or no penalty, the Company does not recognize revenue for these evaluation systems until customer acceptance. In 2006 and earlier periods, sales to customers in Japan were recognized upon title transfer, which generally occurred upon customer acceptance, with the exception of sales of RTP products through the Company's distributor in Japan, which were recognized upon title transfer to the distributor. In December 2006, the Company expanded its distributor relationship in Japan to cover all of the Company's products. Under the new distributor agreement, there are no rights of return and there are no significant post-shipment obligations; therefore revenues are recognized upon title transfer, which occurs upon shipment to the distributor. For spare parts, the Company recognizes revenue upon shipment. The Company recognizes service and maintenance contract revenue on a straight-line basis over the service period of the related contract. Accounts receivable for which revenue has not been recognized are classified as advance billings in the accompanying consolidated balance sheets.

In all cases, revenue is only recognized when persuasive evidence of an arrangement exists, delivery has occurred, the price is fixed or determinable and collectability is reasonably assured.

Research, Development and Engineering Expenses

Research, development and engineering costs are expensed as incurred.

Advertising Expenses

Advertising costs are expensed as incurred. Advertising costs were not material for all periods presented.

Restructuring

The Company records costs associated with employee terminations and other exit activities in accordance with SFAS No. 146, *Accounting for Costs Associated with Exit or Disposal Activities*, and SAB No. 100, *Restructuring and Impairment Charges*. Under SFAS No. 146, employee termination benefits are recorded as an operating expense when the benefit arrangement is communicated to the employee and no significant future services are required. If employees were required to render service until they are terminated in order to receive the termination benefits, the fair value of the liability measured on termination date would be recognized ratably over the future service period. The costs of severance are determined by local statutory requirements and company policies.

The Company recognizes the present value of facility lease termination obligations, net of estimated sublease income and other exit costs, when future lease payments have no future economic benefit. In future periods the Company will record accretion expense to increase the liability to an amount equal to the estimated future cash payments necessary to exit the leases.

Stock-Based Compensation

Effective January 1, 2006, the Company adopted the provisions of SFAS No. 123(R), which established accounting for stock-based awards exchanged for employee services. Accordingly, stock-based compensation cost is measured at grant date, based on the fair value of the award, and is recognized as expense over the requisite service period for the employee. The Company previously applied Accounting Principles Board (APB) Opinion No. 25, *Accounting for Stock Issued to Employees*, and related interpretations, and provided the required pro forma disclosures of SFAS No. 123, *Accounting for Stock-Based Compensation*.

The Company elected to adopt SFAS No. 123(R) using the modified prospective application method as described therein. Accordingly, during the years ended December 31, 2008, 2007 and 2006, the Company recorded stock-based compensation costs totaling the amount that would have been recognized had the fair value method been applied since the effective date of SFAS No. 123, adjusted for estimated forfeitures. Previously reported amounts have not been restated.

Determining the appropriate fair-value model and calculating the fair value of employee stock options, restricted stock awards and rights to purchase shares under employee stock purchase plans at the date of grant requires judgment. The Company uses the Black-Scholes option pricing model to estimate the fair value of these share-based awards consistent with the provisions of SFAS No. 123(R). Option pricing models, including the Black-Scholes model, require the use of input assumptions, including expected volatility, expected life, expected dividend rate and expected risk-free rate of return. The assumptions for expected volatility and expected life are the two assumptions that significantly affect the grant date fair value. The expected dividend rate and expected risk-free rate of return are not significant to the calculation of fair value.

The Company uses historical volatility based on past performance of its common stock to estimate expected volatility, as the Company believes historical volatility is an appropriate indicator of expected future volatility. If another method to estimate expected volatility or expected life is more reasonable than the Company's current methods, or if another method for calculating these input assumptions is prescribed by authoritative guidance, the fair value calculated for share-based awards could change significantly. Higher volatility and expected lives result in an increase to share-based compensation determined at the date of grant.

In addition, SFAS No. 123(R) requires the Company to develop an estimate of the number of share-based awards, which will be forfeited due to employee turnover. Changes in the estimated forfeiture rate can have a significant effect on reported share-based compensation, as the effect of adjusting the rate for all expense amortization after January 1, 2006 is recognized in the period the forfeiture estimate is changed. The expense that is recognized in future periods could also differ significantly from the current period and/or the Company's forecasts due to adjustments in the assumed forfeiture rates.

In November 2005, the Financial Accounting Standards Board (FASB) issued FASB Staff Position No. 123(R)-3, *Transition Election Related to Accounting for Tax Effects of Share-Based Payment Awards*. The Company has elected to adopt the alternative transition method provided in the FASB Staff Position for calculating the tax effects of share-based compensation pursuant to SFAS 123(R). The alternative transition method includes a simplified method to establish the beginning balance of the additional paid-in-capital pool (APIC pool) related to the tax effects of employee share-based compensation, which is available to absorb tax deficiencies recognized subsequent to the adoption of SFAS 123(R).

Foreign Currency Translation

The functional currencies of the Company's foreign subsidiaries are their local currencies. Accordingly, all assets and liabilities of these foreign operations are translated using exchange rates in effect at the end of the period, and revenues and costs are translated using average exchange rates for the period. Gains or losses from translation of foreign operations where the local currencies are the functional currency are included as a component of accumulated other comprehensive income. Foreign currency transaction gains and losses are recognized in the consolidated income statements as they are incurred.

Foreign Currency Forward Exchange Contracts

During 2007 and 2006, the Company employed a foreign currency hedging program, utilizing foreign currency forward exchange contracts, to hedge foreign currency fluctuations associated with Japanese Yen denominated purchase commitments and accounts receivable balances. The goal of the hedging program was to hedge against foreign currency fluctuations associated with the sales of systems to Japan and the revaluation gains (losses) of foreign denominated accounts receivable. The Company did not utilize this program during 2008.

No forward foreign exchange contracts employed by the Company exceeded one year. Under SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities*, these forward contracts did not qualify as designated hedges. All outstanding forward foreign currency contracts were marked to market with the resulting unrealized gains (losses) recorded in other income (expense), net. The Company does not use foreign currency forward exchange contracts for speculative or trading purposes.

With respect to forward foreign exchange contracts, the Company recorded a net gain of \$0.2 million for 2007 and a net gain of \$0.6 million for 2006 in other income (expense), net. As of December 31, 2008 and 2007, the Company had no outstanding forward foreign exchange contracts. At December 31, 2006, the Company had one outstanding forward foreign exchange contract for the purchase in total of \$23.7 million in exchange for 2.8 billion Japanese Yen. Recording the fair value of this contract as of December 31, 2006 resulted in an unrealized gain of \$0.1 million, which was charged to other income (expense), net in 2006.

Income Taxes

The Company provides for income taxes under the provisions of SFAS No. 109, *Accounting for Income Taxes*. SFAS No. 109 requires a liability based approach in accounting for income taxes. Deferred income tax assets and liabilities are recorded based on the differences between the financial statement and tax bases of assets and liabilities using enacted tax rates. Valuation allowances are provided against deferred income tax assets, which are not likely to be realized.

On January 1, 2007, the Company adopted Financial Accounting Standards Board (FASB) Interpretation No. (FIN) 48, *Accounting for Uncertainty in Income Taxes: An Interpretation of FASB Statement No. 109*. Under FIN 48, The Company must recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate resolution. The impact of the Company's reassessment of its tax positions in accordance with FIN 48 resulted in a cumulative effect of adoption of \$0.7 million, which was recorded as an increase in accumulated deficit in the first quarter of 2007.

New Accounting Pronouncements

In December 2007, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standard (SFAS) No. 141R, *Business Combinations*. This standard establishes principles and requirements for how an acquirer recognizes and measures in its financial statements the identifiable assets acquired, the liabilities assumed, any non-controlling interest in the acquiree and the goodwill acquired in a business combination. This standard also establishes disclosure requirements that will enable users to evaluate the nature and financial effects of a business combination. SFAS No. 141R is effective for the Company for acquisitions made after December 31, 2008. The Company does not anticipate that the adoption of this pronouncement will have a significant impact on its financial statements, however, the implementation of SFAS No. 141R may have a material impact on financial statements for businesses acquired by the company post-adoption.

In the first quarter of 2008, the Company adopted SFAS No. 157, *Fair Value Measurements* for all financial assets and financial liabilities and for all non-financial assets and non-financial liabilities recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually). SFAS No. 157 defines fair value, establishes a framework for measuring fair value, and enhances fair value measurement disclosure. The adoption of SFAS No. 157 did not have a significant impact on the Company's financial statements, and the resulting fair values calculated under SFAS No. 157 after adoption were not significantly different than the fair values that would have been calculated under previous guidance. See Note 3 for further details on fair value measurements.

In February 2008, the FASB issued FASB Staff position, (FSP) 157-1, *Application of FASB Statement No. 157 to FASB Statement No. 13 and Other Accounting Pronouncements That Address Fair Value Measurements for Purposes of Lease Classification or Measurement under Statement 13*. FSP 157-1 amends SFAS No. 157 to remove certain leasing transactions from its scope. In February 2008, the FASB issued FASB Staff Position (FSP) No. 157-2, *Effective Date of FASB Statement No. 157*. FSP No. 157-2 delays the effective date of SFAS No. 157 for all non-financial assets and non-financial liabilities, except for items that are recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually), and is effective for financial statements issued for fiscal years beginning after November 15, 2008. The Company is currently evaluating the impact that SFAS No. 157 will have on its consolidated financial statements beginning in the first quarter of 2009.

In April 2008, the FASB issued FSP No. 142-3, *Determination of the Useful Life of Intangible Assets*. FSP No. 142-3 amends the factors that should be considered in developing assumptions about renewal or extension used in estimating the useful life of a recognized intangible asset under SFAS No. 142, *Goodwill and Other Intangible Assets*. This standard is intended to improve the consistency between the useful life of a recognized intangible asset under SFAS No. 142 and the period of expected cash flows used to measure the fair value of the asset under SFAS No. 141R and other Generally Accepted Accounting Principles (GAAP). FSP No.142-3 is effective for financial statements issued for fiscal years beginning after December 15, 2008. The measurement provisions of this standard will apply only to intangible assets of the Company acquired after January 1, 2009.

In May 2008, the FASB issued SFAS No. 162, *The Hierarchy of Generally Accepted Accounting Principles*. SFAS No. 162 supersedes the existing hierarchy contained in the U.S. auditing standards. The existing hierarchy was carried over to SFAS No. 162 essentially unchanged. The Statement becomes effective 60 days following the Securities and Exchange Commission's approval of the Public Company Accounting Oversight Board amendments to the auditing literature. The new hierarchy is not expected to change current accounting practice in any area.

In June 2008, the FASB issued FASB Staff Position (FSP) No. EITF 03-6-1, *Determining Whether Instruments Granted in Share-Based Payment Transactions Are Participating Securities*. FSP No. EITF 03-6-1 addresses whether instruments granted in share-based payment transactions are participating securities prior to vesting and, therefore, need to be included in the earnings allocation in computing earnings per share (EPS) under the two-class method described in FASB Statement No. 128, *Earnings per Share*. This pronouncement is effective for financial statements issued for fiscal years beginning after December 15, 2008. The Company is currently evaluating the impact that FSP No. EITF 03-6-1 will have on its financial statements beginning in the first quarter of 2009.

3. Financial Instruments

Fair Value of Financial Instruments

The carrying amounts of the Company's financial instruments as of December 31, 2008 and 2007, including cash and cash equivalents, short term investments, accounts receivable, and accounts payable. Cash and cash equivalents and short-term investments are reported at their respective fair values on the balance sheet dates. The recorded carrying amount of accounts receivable and accounts payable approximate their fair value due to their short maturities.

Cash, Cash Equivalents and Short-term Investments

The Company's cash and cash equivalents and short-term investments are carried at fair market value. All short-term investments as of December 31, 2008 and 2007 are marked to market, with unrealized gains (losses) recorded as components of other comprehensive income (loss). See Note 10.

Cash and cash equivalents by security type at December 31, 2008 and 2007 were as follows:

	<u>Amortized Cost</u>	<u>Unrealized Gains /(Losses)</u> (thousands)	<u>Estimated Fair Value</u>
December 31, 2008:			
Cash in bank	\$ 22,889	\$ -	\$ 22,889
Money market funds	42,222	-	42,222
Commercial paper	11,993	3	11,996
	<u>\$ 77,104</u>	<u>\$ 3</u>	<u>\$ 77,107</u>
December 31, 2007:			
Cash in bank	\$ 40,685	\$ -	\$ 40,685
Money market funds	55,939	-	55,939
Commercial paper	28,918	(9)	28,909
	<u>\$ 125,542</u>	<u>\$ (9)</u>	<u>\$ 125,533</u>

Short-term investments by security type at December 31, 2008 and 2007 were as follows:

	<u>Amortized Cost</u>	<u>Unrealized Gains</u> (thousands)	<u>Estimated Fair Value</u>
December 31, 2008:			
United States agency securities	\$ 22,610	\$ 83	\$ 22,693
United States corporate bonds	3,532	55	3,587
	<u>\$ 26,142</u>	<u>\$ 138</u>	<u>\$ 26,280</u>
December 31, 2007:			
United States agency securities	\$ 4,447	\$ 4	\$ 4,451
United States corporate bonds	22,473	110	22,583
	<u>\$ 26,920</u>	<u>\$ 114</u>	<u>\$ 27,034</u>

The maturities of short-term investments as of December 31, 2008 and 2007 were as follows:

	<u>December 31,</u>	
	<u>2008</u>	<u>2007</u>
	(thousands)	
Due within one year	\$ 24,695	\$ 14,419
Due in one to two years	1,585	12,615
	<u>\$ 26,280</u>	<u>\$ 27,034</u>

During 2008, the Company closely monitored developments in the credit markets, to ensure that its investments mitigated credit and interest rate exposures in accordance with policies approved by the Company's Audit Committee. At December 31, 2008, the Company's \$42.2 million in money market balances were in funds backed by United States Treasury securities and the Company's \$12.0 million in commercial paper was invested in debt instruments with a rating of at least A-1/P-1 by Standard & Poors/Moody's, as required by policy. In addition, the Company's short-term investments in corporate bonds were all rated at least AA/Aa2, as required by policy.

The Company is prohibited by policy from investing in auction rate securities and most derivative investments, except for certain foreign currency forward exchange contracts entered into as part of its foreign currency hedging program. See Note 2.

For 2008, 2007 and 2006, gross realized gains and losses on sales of short-term investments were not significant. The Company reviews its investments to identify and evaluate indications of possible "other than temporary" impairment. Factors considered in determining whether a loss is temporary include the length of time and extent to which fair value has been less than the cost basis, the financial condition and near-term prospects of the investee, credit quality and the Company's ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value.

SFAS No. 157, *Fair Value Measurements*, clarifies that fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering such assumptions, SFAS No. 157 establishes a three-tier value hierarchy, which prioritizes the inputs used in measuring fair value as follows: (Level 1) observable inputs such as quoted prices in active markets; (Level 2) inputs other than the quoted prices in active markets that are observable either directly or indirectly; and (Level 3) unobservable inputs in which there is little or no market data, which require the Company to develop its own assumptions. This hierarchy requires the Company to use observable market data, when available, and to minimize the use of unobservable inputs when determining

fair value. On a recurring basis, the Company measures certain financial assets and liabilities at fair value, including marketable securities and equity instruments offsetting deferred compensation.

The Company's cash equivalents and investment instruments are classified within Level 1 or Level 2 of the fair value hierarchy because they are valued using quoted market prices, broker or dealer quotations, or alternative pricing sources with reasonable levels of price transparency. The types of instruments valued based on quoted market prices in active markets include most U.S. government and agency securities, money market securities and equity instruments offsetting deferred compensation, which are included in other assets in the condensed consolidated balance sheets. Such instruments are generally classified within Level 1 of the fair value hierarchy. The types of instruments valued based on other observable inputs include investment-grade corporate bonds, mortgage-backed and asset-backed products, state, municipal and provincial obligations. Such instruments are generally classified within Level 2 of the fair value hierarchy. As of December 31, 2008, the Company did not have any investments classified within Level 3 of the fair value hierarchy.

Assets Measured at Fair Value on a Recurring Basis

Assets measured at fair value on a recurring basis are shown in the table below by their corresponding balance sheet caption and consisted of the following types of instruments at December 31, 2008:

	Fair Value Measurements at Reporting Date Using		
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Total Balance
		(thousands)	
Cash and cash equivalents:⁽¹⁾			
Money market funds	\$ 42,222	\$ -	\$ 42,222
Commercial paper	-	11,996	11,996
Short-term investments:			
United States agency securities	22,693	-	22,693
United States corporate bonds	-	3,587	3,587
Other assets:			
Equity instruments offsetting deferred compensation liability	732	-	732
Total assets measured at fair value	\$ 65,647	\$ 15,583	\$ 81,230

(1) Excludes Cash in bank of \$22.9 million, at December 31, 2008.

4. Balance Sheet Details

	December 31,	
	2008	2007
	(thousands)	
Inventories:		
Purchased parts and raw materials	\$ 24,708	\$ 27,727
Work-in-process	9,977	10,934
Finished goods	13,725	12,412
	<u>\$ 48,410</u>	<u>\$ 51,073</u>
Property and equipment:		
Machinery and equipment	\$ 54,952	\$ 52,328
Furniture and fixtures	11,863	11,842
Leasehold improvements	17,797	14,757
	84,612	78,927
Less: accumulated depreciation	(57,468)	(50,327)
	<u>\$ 27,144</u>	<u>\$ 28,600</u>
Accrued liabilities:		
Warranty	\$ 4,381	\$ 9,174
Accrued compensation and benefits	7,103	8,193
Restructuring	3,872	-
Other	5,885	9,533
	<u>\$ 21,241</u>	<u>\$ 26,900</u>

As of December 31, 2008 and 2007, the allowance for excess and obsolete inventory was \$15.1 million and \$7.3 million, respectively. The Company increased the inventory reserves in 2008 for excess and obsolete inventory in accordance with the inventory valuation policy.

Excess and obsolete reserve adjustments inherently involve judgments as to assumptions about expected future demand and the impact of market conditions on those assumptions. Although the Company believes that the assumptions it used in estimating excess and obsolete inventory reserves are reasonable, significant changes in any one of the assumptions in the future could produce a significantly different result. There can be no assurances that future events and changing market conditions will not result in significant increases in the Company's excess and obsolete inventory reserve requirements.

During 2008, the Company recorded an impairment to property and equipment of \$2.8 million, following a review of long-lived assets under SFAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*. As required by SFAS No. 144, the Company reviews the carrying values of all long-lived assets, including property and equipment for impairment whenever events or changes in circumstances indicate that the recorded value cannot be recovered from the undiscounted future cash flows. In late 2008 there was a significant change in the manner in which a long-lived asset was being used. Changing technology and market conditions have delayed customer investments in advanced technology nodes. As a result the Company recorded a non-cash impairment charge of \$2.8 million for long-lived assets that were being used in research and development activities.

5. Goodwill and Intangible Assets

The following table summarizes the components of goodwill and intangible assets and related accumulated amortization balances:

	<u>Goodwill ⁽¹⁾</u>	<u>Developed Technology ⁽¹⁾</u> (thousands)	<u>Total</u>
December 31, 2008:			
Gross carrying amount	\$ -	\$ -	\$ -
Accumulated amortization	-	-	-
Net carrying amount	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

(1) Goodwill and Developed Technology were fully impaired during the fourth quarter of 2008.

December 31, 2007:			
Gross carrying amount	\$ 18,076	\$ 15,647	\$ 33,723
Accumulated amortization	-	(8,567)	(8,567)
Net carrying amount	<u>\$ 18,076</u>	<u>\$ 7,080</u>	<u>\$ 14,160</u>

The Company recorded amortization expense for its developed technology of \$0.5 million, \$0.5 million, and \$0.7 million for the years ended December 31, 2008, 2007 and 2006, respectively. The developed technology was being amortized over a useful life of 17 years.

During 2008, the Company closely monitored the events and changes in circumstances that could result in an impairment of goodwill, and at year end, the Company performed its annual review for goodwill impairment. The weakness in the semiconductor equipment industry combined with the global economic crisis, resulted in a significant decline in the Company's market valuation and projected revenue. The Company has one reportable segment, which is one reporting unit. As a result of these circumstances that occurred in the fourth quarter, the book value exceeded the fair value of the reporting unit. The fair value of the reporting unit was estimated using the expected present value of future cash flows and was also compared to the Company's market capitalization plus a control premium for reasonableness. The Company used a five-year forecast plus a terminal value with a long-term growth rate of 5 percent to estimate the present value of future cash flows. The Company's discount rate of 17% is based on the Company's estimated weighted average cost of capital which is computed by selecting market rates for debt and equity at the valuation date that are reflective of the risks associated with an investment in the semiconductor industry. The present value of the net operating losses and the Company's cash position were factors in determining the fair value of the entity. As a result of this test, the Company determined that the carrying value of the reporting unit exceeded the fair value and recorded a non-cash impairment charge of \$18.1 million.

In conjunction with the valuation of goodwill the Company also reviewed the recoverability of intangible assets. SFAS No. 144, *Accounting for the impairment or Disposal of Long-Lived Assets* establishes accounting standards for the impairment or disposal of long-lived assets including definite-lived identifiable intangibles assets. In performing the review for recoverability, the Company estimated the future cash flows expected to result from the use of the acquired technology and its eventual disposition. The sum of the expected undiscounted future cash flows was less than the carrying amount of the asset. As a result, the Company recorded a non-cash, impairment charge of \$6.6 million related to its acquired technology. These charges were primarily related to a weakening in the economy in the fourth quarter of 2008 and an anticipated decrease in the future cash flows derived from the technology relative to the earlier cash flow expectations at the time these assets were acquired in October 2004. As result of the impairment review in 2007, the Company did not record any impairment charge.

During the year ended December 31, 2006, the Company recorded an impairment charge of \$2.6 million to write down the remaining net book value of the Radiant technology acquired from Vortek in October of 2004. As part of the overall evaluation of impairment, management conducted a thorough review of the intangible assets originally acquired in the Vortek acquisition. During this process, management looked at resource constraints,

strategic focus and potential market opportunities for both the Radiant and Flash RTP technologies acquired from Vortek. Management decided that it was in Mattson's best interest to focus solely on the Flash RTP business and determined that the remaining net book value of the intangible asset relating to the Radiant technology was fully impaired. The write off represented the remaining book value of the Radiant technology acquired from Vortek in October of 2004.

6. Restructuring Charges

2008 Restructuring Plans

On December 9, 2008, the Company announced that in response to the weakness of the current business environment, it would reduce approximately 20 percent of the Company's global workforce through reductions-in-force and outsourcing. The Company expects to record severance pay expenses of \$3.5 million in connection with the plan. Substantially all of these charges will result in cash expenditures. During the fourth quarter, \$2.5 million in reserves were established for severance expenses. As of December 31, 2008, payments totaling \$0.6 million had been made against this restructuring reserve. The Company estimates that it will establish further reserves of \$1.1 million for severance payments. The Company began implementation of the restructuring actions in the fourth quarter of 2008 and expects to complete all significant related activities by the second quarter of 2009.

On September 10, 2008, the Company announced a restructuring program to reduce headcount and optimize facilities worldwide. The Company expects to record restructuring-related charges of \$3.8 million in connection with the plan. All of these costs will represent cash expenditures. As of December 31, 2008, the Company established \$2.9 million in reserves against the plan, \$2.5 million for restructuring expenses and \$0.4 million for lease termination charges. As of December 31, 2008, payments totaling \$0.9 million had been made against this restructuring reserve. The Company made adjustments of \$0.1 million to the reserve. The Company estimates that it will establish further reserves of \$1.0 million for lease termination expenses. It is expected that the headcount reduction and other cost alignment activities will be completed by the end of the second quarter of 2009.

On June 26, 2008, the Company announced a reduction in force in selected organizations. The Company eliminated approximately 25 positions, or about 5 percent of its global workforce. The Company recorded \$0.7 million as restructuring charges in connection with the reorganization. These charges are comprised of severance expenses. As of December 31, 2008, payments totaling \$0.6 million had been made against this restructuring reserve. The Company made adjustments of \$0.1 million to the reserve. The Company has completed all activities related to this plan.

For the year ended December 31, 2008, the Company recorded \$6.0 million as restructuring charges representing employee severance benefits and lease contract termination cost against all of the restructuring programs, in accordance with SFAS No.146 *Accounting for Costs Associated with Exit or Disposal Activities*. During the year ended December 31, 2008, \$2.1 million had been paid against these accrued restructuring reserves and there were adjustments of \$0.2 million that decreased the reserves. The Company expects to record additional reserves of \$2.1 million against these three restructuring plans during the first and second quarters of 2009. The Company anticipates that all payments against this reserve will be substantially completed by the end of the second quarter of 2009.

The following is a summary of the three restructuring plans announced during 2008 and the estimated liabilities at December 31, 2008:

	Employee Severance Benefits	Contract Termination Cost	Total
		(thousands)	
Q4 2008 Plan			
Restructuring and other charges	\$ 2,544	\$ -	\$ 2,544
Payments	(577)	-	(577)
Reserve adjustments	-	-	-
	<u>1,967</u>	<u>-</u>	<u>1,967</u>
Q3 2008 Plan			
Restructuring and other charges	\$ 2,498	\$ 394	\$ 2,892
Payments	(898)	(18)	(916)
Reserve adjustments	(71)	-	(71)
	<u>1,529</u>	<u>376</u>	<u>1,905</u>
Q2 2008 Plan			
Restructuring and other charges	\$ 739	\$ -	\$ 739
Payments	(625)	-	(625)
Reserve adjustments	(114)	-	(114)
	<u>-</u>	<u>-</u>	<u>-</u>
Restructuring Reserve as of December 31, 2008	<u>\$ 3,496</u>	<u>\$ 376</u>	<u>\$ 3,872</u>

2002 and 2003 Restructuring Plans

In 2002 and 2003, the Company recorded restructuring charges of \$2.4 million for consolidation of several excess leased facilities in the U.S. and overseas. The Company paid \$1.4 million of the restructuring charges during 2002, 2003 and 2004, resulting in an accrued liability for consolidation of excess facilities of \$1.0 million at December 31, 2004. In 2007, 2006 and 2005, the Company made cash payments of \$0.4 million, \$0.2 million, and \$0.4 million, respectively, related to its restructuring plans. The Company concluded its remaining restructuring plans in 2007. At December 31, 2007, there was no remaining reserve under the restructuring plans for consolidation of excess facilities.

7. Guarantees

During the ordinary course of business, the Company's bank provides standby letters of credit or other guarantee instruments on behalf of the Company to certain parties as required. The maximum potential amount that the Company could be required to pay is \$1.6 million, representing standby letters of credit outstanding as of December 31, 2008. The Company has not recorded any liability in connection with these guarantee arrangements beyond that required to appropriately account for the underlying transaction being guaranteed. The Company does not believe, based on historical experience and information currently available, that it is probable that any amounts will be required to be paid under these guarantee arrangements.

The Company is a party to a variety of agreements, pursuant to which it may be obligated to indemnify the other party with respect to certain matters. Typically, these obligations arise in the context of contracts under which the Company may agree to hold the other party harmless against losses arising from a breach of representations or with respect to certain intellectual property, operations or tax-related matters. The Company's obligations under these agreements may be limited in terms of time and/or amount, and in some instances the Company may have defenses to asserted claims and/or recourse against third parties for payments made by the Company. It is not possible to predict the maximum potential amount of future payments under these or similar agreements due to the

conditional nature of the Company's obligations and the unique facts and circumstances involved in each particular agreement. Historically, payments made by the Company under these agreements have not had a material effect on the Company's financial position or results of operations or cash flows. The Company believes if it were to incur a loss in any of these matters, such loss would not have a material effect on the Company's financial position or results of operations.

8. Borrowing Facility

The Company has a \$10 million revolving line of credit with a bank. The revolving line of credit was renewed in June 2007, expires in June 2009 and has a commitment fee of \$25,000. As of December 31, 2008, there was no borrowing under this credit line. All borrowings under this credit line bear interest at a per annum rate equal to either the bank's prime rate minus 50 basis points or the London Interbank Offered Rate (LIBOR) plus 200 basis points, at the option of the Company. The line of credit is collateralized by a blanket lien on all of the Company's domestic assets including intellectual property. As of December 31, 2008 the Company was not in compliance with a certain covenant related to tangible net worth. The covenants on the revolving line of credit were amended in February 2009. The amended line of credit requires the Company to satisfy quarterly covenants including, minimum financial ratios related to current assets and current liabilities, SEC reporting compliance, and maintaining a minimum cash balance of \$50 million. The cash balances may be withdrawn, but availability of the line of credit is dependent upon maintenance of such cash balances. As of this filing, the Company was in compliance with the covenants.

9. Commitments and Contingencies

The Company holds various operating leases related to its facilities and equipment worldwide and a sublease in respect to one of its facilities located in Exton, Pennsylvania. The following table sets forth the Company's minimum annual rental commitments with respect to its operating leases with various expiry dates through 2019 and its sublease, which expires in 2010 as of December 31, 2008:

Year	Operating Lease Payments	Sublease Income
	(thousands)	
2009	\$ 4,867	\$ (1,564)
2010	4,170	(1,595)
2011	3,575	-
2012	3,575	-
2013	3,633	-
Thereafter	14,567	-
	<u>\$ 34,387</u>	<u>\$ (3,159)</u>

Rent expense was approximately \$5.4 million, \$5.6 million and \$5.7 million, in 2008, 2007 and 2006, respectively. The Company recorded sublease income of approximately \$1.5 million, \$1.5 million and \$2.0 million in 2008, 2007 and 2006, respectively.

In 2005, the Company entered into a new lease agreement for its existing corporate headquarters building in Fremont, California. The lease is for a period of 10 years, which commenced on May 31, 2007, and has an initial annual base rent cost of approximately \$1.4 million, with annual base rent increases of approximately 3.5 percent. The Company has one five-year option to extend the lease at market lease rates in effect on the expiration date. Additionally, insurance, real property taxes and operating expenses are to be paid by the Company. The Company is responsible for an additional minimum lease payment at the end of the lease term of approximately \$1.5 million, subject to adjustment, which is being accounted for in accordance with SFAS No. 13, *Accounting for Leases*, and will be accrued on a straight-line basis over the lease term. The Company has provided the landlord a letter of credit for \$1.5

million to secure this obligation. The letter of credit amount may be increased to reflect any adjustments made to a restoration cost obligation provision included in the lease.

The Company was leasing two buildings previously used to house its manufacturing and administrative functions related to wet surface preparation products in Exton, Pennsylvania. The Company ended the lease for the manufacturing building as of June 5, 2008. The Company received approximately \$0.2 million, net of legal fees, as part of the lease termination agreement. The lease for the administrative building will expire March 31, 2019, with a current rental cost of approximately \$0.9 million annually. The Company expects to make payments related to the administrative building lease over the next eleven years, less any sublet amounts. The lease agreement for the administrative building allows for subleasing the premises without the approval of the landlord. In January 2008, the administrative building was sublet for a period of approximately three years, until December 2010, with an option for the subtenant to extend for an additional three years. In determining the facilities lease loss, various other assumptions were made, including the time period over which the buildings will be vacant, expected sublease terms and expected sublease rates. Total future expected lease payments of approximately \$9.3 million were assumed in determining the facilities lease loss on the administrative building, offset by the expected sub lease income. As of December 31, 2008 and 2007, the Company had an accrual balance of \$0.7 million and \$1.0 million, respectively, related to these leases. Adjustments to the accrual for these leases will be made in future periods, if necessary, as soon as evidence of any adjustment can be reasonably estimated as future events and circumstances become known.

In connection with the acquisition of Vortek Industries, Ltd (Vortek) in 2004, the Company became party to an agreement between Vortek and the Canadian Minister of Industry (the Minister) relating to an investment in Vortek by Technology Partnerships Canada. Under that agreement, as amended, the Company or Vortek (renamed Mattson Technology, Canada, Inc. or "MTC") agreed to various covenants, including (a) payment by the Company of a royalty to the Minister of 1.4 percent of revenues from Flash RTP products, up to a total of CAD 14,269,290 (approximately \$11.7 million at December 31, 2008), (b) MTC maintaining a specified average workforce of employees in Canada through October 27, 2009, (c) investment of a certain amount by October 27, 2009 and certain other covenants concerning protection of intellectual property rights and manufacturing obligations. If the Company, or MTC, does not materially satisfy its obligations, the Minister may demand payment of liquidated damages in the amount of CAD 14,269,290 less any royalties paid by MTC or the Company to the Minister. The Company has been providing annual reports to the Canadian Government on the status of the entity and believes it is materially in compliance with these covenants.

In the ordinary course of business, the Company is subject to claims and litigation, including claims that it infringes third party patents, trademarks and other intellectual property rights. Although the Company believes that it is unlikely that any current claims or actions will have a material adverse impact on its operating results or its financial position, given the uncertainty of litigation, the Company cannot be certain of this. Moreover, the defense of claims or actions against the Company, even if not meritorious, could result in the expenditure of significant financial and managerial resources.

From time to time, the Company is party to legal proceedings and claims, either asserted or unasserted, which arise in the ordinary course of business. While the outcome of these matters is not presently determinable and cannot be predicted with certainty, management does not believe that the outcome of any of these matters or any of the above mentioned legal claims will have a material adverse effect on the Company's financial position, results of operations or cash flows.

10. Stockholders' Equity

The number of shares of common stock outstanding at the end of each of the periods presented was reduced by approximately 100,000 shares to reflect an adjustment for certain unredeemed shares related to the acquisition of CFM Technologies, Inc. (CFM) in January 2001 that was identified in the first quarter of 2007. In January 2001, the shares issued were placed into escrow and the fair value was allocated to certain intangible assets that were subsequently impaired in 2001. Since the error occurred in 2001, and is not material to any of the periods presented, an adjustment was made to reduce accumulated deficit and additional paid-in capital at the end of each of the periods presented by approximately \$3.5 million.

Common Stock Repurchase Program

In March 2007, the Company's Board of Directors authorized the repurchase of up to \$20 million of the Company's shares of common stock through open-market purchases or private transactions. In October 2007, the Company's Board of Directors authorized the repurchase of up to an additional \$30 million of the Company's shares of common stock. The size and timing of future repurchases will depend on the Company's share price. As of December 31, 2008, a total of 3.8 million shares have been repurchased against the original and expanded repurchase plan, at a weighted-average purchase price of \$9.20. Of the 3.8 million shares repurchased as of December 31, 2008, 0.3 million shares were repurchased during the year ended December 31, 2008 at a weighted average price of \$7.95. The Company has authorization to repurchase up to an additional \$15 million of the Company's shares of common stock under the repurchase plan.

Comprehensive Income

The components of accumulated other comprehensive income, net of related tax, at December 31, 2008 and 2007 are as follows:

	December 31,	
	2008	2007
	(thousands)	
Cumulative translation adjustments	\$ 20,458	\$ 18,825
Unrealized investment gain (loss), net of tax	(203)	207
	\$ 20,255	\$ 19,032

Stockholder Rights Plan

On July 28, 2005, the Company adopted a Stockholder Rights Plan (Rights Plan). Under the Rights Plan, stockholders of record at the close of business on August 15, 2005 received one share purchase right (Right) for each share of the Company's common stock held on that date.

The Rights, which currently trade with the Company's common stock and represent the right to purchase one one-thousandth of a share of preferred stock at \$55.00 per share, become exercisable when a person or group acquires 15 percent or more of the Company's common stock (acquiror) without prior approval of the Company's Board of Directors. In that event, the Rights permit Mattson stockholders, other than the acquiror, to purchase Mattson common stock having a market value of twice the exercise price of the Rights, in lieu of the preferred stock. Alternatively, when the Rights become exercisable, the Company's Board of Directors may authorize the issuance of one share of the Company's common stock in exchange for each Right that is then exercisable. In addition, in the event of certain business combinations, the Rights permit the purchase of the common stock of an acquiror at a 50 percent discount. Rights held by the acquiror will become null and void in each case. Prior to a person or group acquiring 15 percent, the Rights can be redeemed for \$0.001 each by action of the Board. The Rights expire on July 27, 2015. The Rights distribution was not taxable to stockholders.

The Rights Plan further authorizes the issuance of one Right with each share of common stock that becomes outstanding after the record date and before the acquisition of 15 percent of the Company's common stock by an acquiror. At December 31, 2008, approximately 49.7 million share purchase rights were outstanding under the Rights Plan.

11. Employee Stock Plans

In May, 2005, the Company amended and restated the Company's 1989 Stock Option Plan (the 1989 Plan) as the 2005 Equity Incentive Plan (the 2005 Plan), under which a total of 11,975,000 shares of common stock were reserved for issuance at December 31, 2006. In June 2007, the Company's shareholders approved an amendment to the 2005 Plan increasing by 2,500,000 the shares of common stock reserved for issuance under the 2005 Plan, resulting in a total of 14,475,000 shares of common stock reserved for issuance at December 31, 2008. The Company had approximately 2.5 million shares available for future grants under the 2005 Plan at December 31, 2008.

In addition to stock options, the 2005 Plan authorizes the grant of stock purchase rights, stock bonuses and restricted stock units. Options and stock purchase rights granted under the 2005 Plan are for periods not to exceed seven years. Generally, incentive stock option and non-statutory stock option grants under the 2005 Plan must be at exercise prices that are at least 100 percent of the fair market value of the stock on the date of grant. The options generally vest 25 percent of the options granted on the first anniversary of the date of the grants, and 25 percent per year thereafter.

In 2007, grants of restricted stock units generally vest at $\frac{1}{4}$ of the units granted on the first anniversary of the date of grant, and $\frac{1}{16}$ of the initial units granted per quarter thereafter. In 2008, grants of restricted stock units generally vest at $\frac{1}{4}$ of the units granted on the first anniversary of the date of grant, and $\frac{1}{4}$ of the initial units granted per year thereafter. On occasion, the Company grants restricted stock units for varying purposes with different vesting schedules. 2005 Plan awards of restricted stock units are counted against the total number of shares of common stock issuable under the plan at 1.75 shares for every one share subject thereto. The value of the restricted stock units was based on the closing market price of the Company's common stock on the date of award.

The following table summarizes the combined activity under all of the Company's equity incentive plans for the three years ended December 31, 2008:

	<u>Awards Available For Grant</u> (thousands)	<u>Stock Options Outstanding</u> (thousands)	<u>Weighted-Average Exercise Price</u>	<u>Restricted Stock Units Outstanding</u> (thousands)	<u>Weighted-Average Grant Date Fair Value</u>
Balance at December 31, 2005	2,469	5,822	\$ 8.93	-	\$ -
Stock options:					
Granted	(1,022)	1,022	\$ 10.35	-	-
Exercised	-	(501)	\$ 6.59	-	-
Cancelled or forfeited	301	(307)	\$ 10.92	-	-
Restricted stock units:					
Granted	(264)	-	-	151	\$ 11.39
Released	-	-	-	-	-
Cancelled or forfeited	<u>2</u>	<u>-</u>	<u>-</u>	<u>(1)</u>	<u>\$ 11.35</u>
Balance at December 31, 2006	1,486	6,036	\$ 9.27	150	\$ 11.39
Stock options:					
Authorized June 4, 2007	2,500	-	-	-	-
Granted	(888)	888	\$ 9.03	-	-
Exercised	-	(454)	\$ 4.95	-	-
Cancelled or forfeited	345	(352)	\$ 12.08	-	-
Restricted stock units:					
Granted	(177)	-	-	101	\$ 9.08
Released	-	-	-	(66)	\$ 9.84
Cancelled or forfeited	<u>22</u>	<u>-</u>	<u>-</u>	<u>(13)</u>	<u>\$ 10.59</u>
Balance at December 31, 2007	3,288	6,118	\$ 9.39	172	\$ 10.69
Stock options:					
Granted	(1,041)	1,041	\$ 5.42	-	-
Exercised	-	(65)	\$ 2.80	-	-
Cancelled or forfeited	1,322	(1,322)	\$ 8.94	-	-
Restricted stock units:					
Granted	(1,600)	-	-	915	\$ 3.83
Released	45	-	-	(69)	\$ 4.46
Cancelled or forfeited	438	-	-	(250)	\$ 4.37
Balance at December 31, 2008	<u>2,452</u>	<u>5,772</u>	\$ 8.85	<u>768</u>	\$ 5.12

Supplemental disclosure information about the Company's stock options outstanding as of December 31, 2008 is as follows:

	<u>Shares</u> (thousands)	<u>Weighted- Average Exercise Price</u>	<u>Weighted- Average Remaining Contractual Life</u> (in years)	<u>Aggregate Intrinsic Value</u> (thousands)
Options exercisable at December 31, 2008	4,112	\$ 9.50	3.6	\$ -
Options expected to vest at December 31,	5,772	\$ 8.85	4.2	\$ 2
Options outstanding at December 31, 2008	5,772	\$ 8.85	4.2	\$ 2

The aggregate intrinsic value in the table above represents the total pretax intrinsic value, based on the Company's closing stock price of \$1.41 as of December 31, 2008, which would have been received by the option holders had all option holders exercised their options as of that date. The total number of shares of common stock subject to in-the-money options exercisable as of December 31, 2008 was none. The weighted average grant date fair value of options granted during the years ended December 31, 2008, 2007 and 2006 was \$2.70, \$5.72 and \$7.32 per share, respectively.

The total intrinsic value of options exercised during the year ended December 31, 2008 was \$0.2 million. The total cash received from employees as a result of employee stock option exercises during the year ended December 31, 2008 was \$0.2 million. The Company settles employee stock option exercises with newly issued common shares.

Acceleration of Stock Options

On August 25, 2005, the Company accelerated the vesting of certain unvested and out-of-the-money stock options outstanding under the Company's stock plans. In making the decision to accelerate these options, the Board of Directors considered the interest of the stockholders in reducing the earnings impact of the adoption of SFAS No. 123(R) in 2006, and the impact that this could have had on the Company's market value. In addition, because these options had exercise prices in excess of the reported closing price on the date of the acceleration, they were not fully achieving their original objectives of incentive compensation and employee retention.

The acceleration of vesting applied to all unvested options that had an exercise price per share of \$9.05 or higher. As a result of the acceleration, options to purchase approximately 1.47 million shares of the Company's common stock became exercisable immediately. The weighted average exercise price of the affected options was \$10.20 per share. The total number of options subject to acceleration included options to purchase approximately 503,000 shares held by the executive officers and directors of the Company. In order to prevent unintended benefits to executive officers and directors, the Company imposed new restrictions on all shares received through the exercise of accelerated options held by those individuals, which will prevent the sale of those shares prior to the earlier of the original vesting date of the option or the individual's termination of employment.

In accordance with SFAS No. 123(R), the Company began applying expense recognition provisions relating to stock options in the first quarter of 2006. As a result of its action to accelerate the vesting of out-of-the-money options, the Company reduced the non-cash expense it otherwise would otherwise have been required to record in 2006, 2007 and future years. The accelerated vesting of these options did not result in a charge in 2005 based on generally accepted accounting principles.

Employee Stock Purchase Plan

In August 1994, the Company adopted an employee stock purchase plan (Purchase Plan) under which 6,175,000 shares of common stock had been reserved for issuance through December 31, 2008. The number of shares sold under the Purchase Plan were approximately 249,000 in 2008, 91,000 in 2007, and 59,000 in 2006. In 2008, 2007 and 2006,

the Purchase Plan did not contain a look-back option feature. At December 31, 2008, approximately 3.2 million shares were available for issue under the Purchase Plan.

The Purchase Plan is administered over varying offering periods up to 27 months. For 2006, the Company completed a seven-month offering period in November 2006. For 2008 and 2007, the Company completed two six-month offering periods in May and November of each respective year. The weighted-average fair value of Purchase Plan shares issued during the years ended December 31, 2008, 2007 and 2006 was \$0.28, \$0.90 and \$0.99 per share. As there is no look-back option feature in 2008, 2007 and 2006, compensation cost for the respective years is determined using the intrinsic value of the 10 percent discount, and the use of an option-pricing model is not applicable.

Eligible employees may designate not more than 15 percent of their gross cash compensation to be deducted each pay period for the purchase of common stock under the Purchase Plan, and participants may not purchase more than \$25,000 worth of common stock in any calendar year or 10,000 shares in any offering period. On the last business day of each purchase period, shares of common stock are purchased with the employees' payroll deductions accumulated during the offering period. For the offering periods completed in 2008, 2007 and 2006, the offering is at a price per share equal to 90 percent of the market price of the common stock on the date immediately preceding the purchase date.

12. Stock-Based Compensation

Effective January 1, 2006, Mattson adopted the provisions of SFAS No. 123(R), *Accounting for Stock-Based Compensation* which established accounting for stock-based awards exchanged for employee services.

The effect of recording stock-based compensation for the years ended December 31, 2008, 2007 and 2006 were as follows:

	Year Ended December 31,		
	2008	2007	2006
	(thousands, except per share amounts)		
Stock-based compensation by type of award:			
Stock options	\$ 3,527	\$ 3,234	\$ 1,952
Restricted stock units	766	585	383
Employee stock purchase plan	73	65	73
Total stock-based compensation	4,366	3,884	2,408
Tax effect on stock-based compensation	-	-	-
Effect on net income	\$ 4,366	\$ 3,884	\$ 2,408
Stock-based compensation by category of expense:			
Cost of sales	\$ 135	\$ 129	\$ 56
Research, development and engineering	521	478	277
Selling, general and administrative	3,710	3,277	2,075
Effect on net income	\$ 4,366	\$ 3,884	\$ 2,408

As of December 31, 2005, the Company had an unrecorded deferred stock-based compensation balance related to stock options of \$2.0 million after estimated forfeitures. In the Company's pro forma disclosures prior to the adoption of SFAS No. 123(R), the Company accounted for forfeitures upon occurrence. SFAS No. 123(R) requires forfeitures to be estimated at the time of grant and revised if necessary in subsequent periods if actual forfeitures differ from those estimates. During the years ended December 31, 2008, 2007 and 2006, the Company granted stock options to acquire approximately 1.0 million, 0.9 million and 1.0 million shares of common stock, respectively, with an estimated total grant-date fair value of \$2.5 million, \$4.5 million and \$6.6 million, respectively, after estimated

forfeitures. As of December 31, 2008, the unrecorded deferred stock-based compensation balance related to stock options was \$5.1 million after estimated forfeitures, which will be recognized over an estimated weighted average amortization period of 2.6 years.

During the years ended December 31, 2008, 2007 and 2006, the Company granted approximately 0.2 million, 0.1 million and 0.2 million restricted stock units, respectively, with an estimated total grant-date fair value of \$1.1 million, \$0.8 million and \$1.5 million, respectively, after estimated forfeitures. As of December 31, 2008, there was \$1.3 million of unrecorded deferred stock-based compensation, after estimated forfeitures, related to nonvested restricted stock units granted under the 2005 Plan. That cost will be recognized over an estimated weighted average amortization period of 1.9 years.

Performance-Based Restricted Stock Units

During the year ended December 31, 2008, the Company's Board of Directors approved the grant of 683,000 performance-based restricted stock units to certain executives, officers and senior-level management. During the year ended December 31, 2008, 175,000 of these restricted stock units were cancelled, leaving 508,000 units outstanding at December 31, 2008.

The fair value of the performance-based restricted stock units with market conditions was determined using a Monte Carlo valuation methodology with the assumptions on the volatility of the Company's common stock, dividend yield and risk-free interest rate. The fair value of the performance-related component of the performance shares was equivalent to the grant-date fair value of the Company's common stock. These restricted stock units vest in four equal tranches upon the achievement of four sequentially increasing revenue performance targets. Vesting is also contingent upon certain operating profit margin and stock price thresholds being met. If any of the conditions have not been met by the close of the Company's 2011 fiscal year, then the corresponding units will be forfeited. In accordance with SFAS No. 123(R), the stock price threshold condition was incorporated into the measurement of fair value on the grant date. The Company recognizes the compensation cost if it determines that it is probable that the performance targets could be met. During the first quarter, it was determined that it is probable that the performance targets could be met, but with the change in market conditions in the fourth quarter, it was determined that it was not probable that the performance targets would be met by the specified dates. The Company did not record any stock compensation expense related to these performance based restricted stock units in 2008. If and when the Company determines that the related targets are probable of being achieved, the Company will begin recognizing compensation cost in the period that such assessment is made in accordance with SFAS No. 123(R).

The fair value of the 683,000 performance-based restricted stock units with market conditions was determined using a Monte Carlo valuation methodology with the following weighted-average assumptions: volatility of the Company's common stock of 50 percent; dividend yield of 0 percent, and risk-free interest rate of 2.3 percent. The fair value of the performance-related component of the performance shares was equivalent to the grant-date fair value of the Company's common stock.

The Company has not capitalized any stock-based compensation as inventory or deferred system profit at December 31, 2008 and 2007, as such amounts were inconsequential.

Valuation Assumptions

The Company estimates the fair value of stock options using the Black-Scholes valuation model, consistent with the provisions of SFAS No. 123(R). The fair value of each option grant is estimated on the date of grant using the Black-Scholes option valuation model and the straight-line attribution approach with the following weighted-average assumptions:

	Year Ended December 31,		
	2008	2007	2006
Options:			
Expected dividend yield	-	-	-
Expected stock price volatility	55%	74%	88%
Risk-free interest rate	2.9%	4.6%	4.4%
Expected life of options	5 years	5 years	5 years

Option-pricing models require the input of highly subjective assumptions, including the option's expected life and the price volatility of the underlying stock. The expected life of each option was determined by analyzing historical exercise and post-vest forfeiture patterns. The risk-free interest rate was determined using the rates for United States Treasury notes for similar terms. The expected stock price volatility assumption was determined using the historical volatility of the Company's common stock.

13. Employee Savings Plans

Employee Savings Plan

The Company has a retirement/savings plan (the ESP Plan), which is qualified under section 401(k) of the Internal Revenue Code. All full-time employees who are twenty-one years of age or older are eligible to participate in the ESP Plan. The ESP Plan allows participants to contribute up to an amount allowed by the applicable Internal Revenue Service guidelines. The Company may make a discretionary matching contribution equal to a percentage of the participants' contributions. In 2008, 2007 and 2006 the Company made matching contributions of approximately \$0.7 million, \$0.6 million and \$0.6 million, respectively. In March 2009, the Company will suspend matching contributions as a cost cutting measure.

Deferred Compensation Plan

Effective January 1, 2006, the Company adopted a deferred compensation plan (the DC Plan). Under the DC Plan, the Company provides eligible employees and non-employee members of its Board of Directors who participate in the DC Plan (Participants) the opportunity to defer a specified percentage of their base salary or retainer fees for participation on the Company's Board and Board Committees. In addition, the Company's Board of Directors may make discretionary contributions to the accounts of one or more Participants.

Under the DC Plan, the Company is obligated to deliver on a future date the deferred compensation credited to a Participant's account, adjusted for any positive or negative investment results from investment alternatives selected by the Participant under the DC Plan (the Obligations). The Obligations are unsecured general obligations of the Company and rank in parity with other unsecured and unsubordinated indebtedness of the Company. The Obligations are not transferable, except upon death of a Participant. There is no trading market for the Obligations.

As of December 31, 2008 and 2007, the Company had approximately \$0.7 million and \$1.1 million, respectively, in net assets under the DC Plan, which were invested primarily in equity investment funds. The Company has recorded these assets as other assets and has recorded the corresponding liability to DC Plan participants as other long-term liabilities in the accompanying consolidated balance sheets. Unrealized gains and losses on DC Plan investments are recorded in accumulated other comprehensive income in the accompanying consolidated balance sheets. The corresponding liability is being marked to market and is being recorded as compensation expense to the extent that there is an increase in value or a reduction of expense to the extent that

there is a decrease in value. Unrealized gains and losses and the impact of marking to market the liability for the years ended December 31, 2008 and 2007 was an unrealized loss of \$0.4 million in 2008 and an unrealized gain of \$0.1 million in 2007.

14. Reportable Segments

SFAS No. 131, *Disclosures about Segments of an Enterprise and Related Information*, establishes standards for reporting information about operating segments, geographic areas and major customers in financial statements. Operating segments are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision maker in deciding how to allocate resources and in assessing performance. The Chief Executive Officer of the Company is the Company's chief decision maker. As the Company's business is completely focused on one industry segment, the design, manufacturing and marketing of advanced fabrication equipment to the semiconductor manufacturing industry, management believes that the Company has one reportable segment. The Company's revenues and profits are generated through the sales of systems and services for this one segment.

The following shows net sales by geographic areas based on the installation locations of the systems and the location of services rendered. Royalty revenues from DNS (See Note 15) of \$6.4 million, \$11.5 million and \$7.5 million in 2008, 2007 and 2006, respectively, are included in net sales to Japan.

	Year Ended December 31,		
	2008	2007	2006
	(thousands)		
United States	\$ 12,704	\$ 22,301	\$ 30,481
Taiwan	32,810	73,037	75,961
Korea	19,881	52,203	63,548
Japan	32,738	51,499	58,399
Europe and others	12,371	35,141	20,036
Other Asia	23,047	33,105	33,356
	<u>\$ 133,551</u>	<u>\$ 267,286</u>	<u>\$ 281,781</u>

In 2008, two customers accounted for 19 percent and 10 percent of total revenues, respectively. In 2007, four customers accounted for 15 percent, 13 percent, 12 percent and 10 percent of total revenues, respectively. In 2006, two customers accounted for 15 percent and 12 percent of total revenues, respectively. At December 31, 2008, four customers accounted for 27 percent, 14 percent, 13 percent and 10 percent of the Company's accounts receivable. At December 31, 2007, three customers accounted for 27 percent, 12 percent and 10 percent of the Company's accounts receivable.

Geographical information relating to the Company's property and equipment as of December 31, 2008 and 2007 is as follows:

	December 31,	
	2008	2007
	(thousands)	
United States	\$ 18,778	\$ 15,118
Germany	6,637	11,122
Canada	1,337	2,050
Others	392	310
	<u>\$ 27,144</u>	<u>\$ 28,600</u>

15. DNS Patent Infringement Suit Settlement

On March 5, 2002, a jury in San Jose, California rendered a verdict in favor of the Company's then subsidiary, Mattson Wet Products, Inc. (formally CFM Technologies, Inc.), in a patent infringement suit against Dainippon Screen Manufacturing Co., Ltd. (DNS), a Japanese manufacturer of semiconductor wafer processing equipment. On June 24, 2002, the Company entered into a settlement agreement and a license agreement with DNS, under which DNS agreed to make payments to the Company totaling between \$75 million (minimum) and \$105 million (maximum), relating to past damages, partial reimbursement of attorney fees and costs and license fees. The agreement has expired and no further payments are expected.

In May 2008, DNS paid the Company the last royalty payment under the license agreement of \$6.4 million for royalties due through January 15, 2008. As of December 31, 2008, DNS has made payments aggregating \$95.1 million under the terms of the settlement and license agreements. The Company recognized \$6.4 million, \$11.5 million and \$7.5 million of royalty revenue from DNS for the years ended December 31, 2008, 2007 and 2006, respectively, which is recognized as net sales in the consolidated income statements.

16. Disposition of Wet Business

On March 17, 2003, the Company sold the portion of its business that related to developing, manufacturing, selling and servicing wet surface preparation products for the cleaning and preparation of semiconductor wafers (the Wet business) to SCP Global Technologies, Inc. (SCP). SCP paid the Company the initial purchase price of \$2.0 million in cash. That initial purchase price was subject to adjustment based on a number of criteria, including an earn-out, up to an aggregate maximum of \$5.0 million, payable to the Company based upon sales by SCP of certain products to identified customers through December 31, 2004.

In 2006, the Company concluded all activities related to the disposition of the Wet business, and released a remaining accrual of \$0.6 million, which was previously established as an estimate of a portion of the projected costs to fulfill the Company's obligations under the sale of the Wet business. The payment has been recorded as a reduction of operating expenses for 2006 in the consolidated income statements.

17. Income Taxes

The components of income (loss) before provision for income taxes are as follows:

	Year Ended December 31,		
	2008	2007	2006
	(thousands)		
Domestic income (loss)	\$ (84,117)	\$ 31,396	\$ 23,498
Foreign income (loss)	(5,735)	1,058	(2,290)
Income (loss) before income taxes	\$ (89,852)	\$ 32,454	\$ 21,208

The provision (benefit) for income taxes consists of the following:

	Year Ended December 31,		
	2008	2007	2006
	(thousands)		
Current:			
Federal	\$ (35)	\$ 67	\$ 674
State	35	31	97
Foreign	44	669	485
Total current	44	767	1,256
Deferred:			
Federal	-	62	1,444
State	-	32	113
Foreign	2,267	4,040	1,281
Total deferred	2,267	4,134	2,838
Provision for income taxes	\$ 2,311	\$ 4,901	\$ 4,094

Deferred tax assets (liabilities) are comprised of the following:

	December 31,	
	2008	2007
	(thousands)	
Net operating loss carryforwards	\$ 108,396	\$ 96,378
Capital loss carryforward	13,145	13,503
Reserves not currently deductible	9,781	8,777
Tax credit carryforwards	2,085	7,694
Depreciation	5,689	4,988
Deferred revenue	1,382	1,450
Research and development capitalization	376	739
Other	1,034	725
Total deferred tax asset	141,888	134,254
Valuation allowance	(141,888)	(131,564)
Total net deferred tax asset	-	2,690
Deferred tax liability - acquired intangibles	-	(2,690)
Net deferred tax asset	\$ -	\$ -

Net changes in the income tax valuation allowance are as follows:

	December 31,	
	2008	2007
	(thousands)	
Balance at the beginning of the year	\$ 131,564	\$ 137,297
Utilization and other reductions, net	10,324	(5,733)
Balance at the end of the year	\$ 141,888	\$ 131,564

The provision for income taxes reconciles to the amount computed by multiplying income before income tax by the U.S. statutory rate of 35 percent as follows:

	Year Ended December 31,		
	2008	2007	2006
	(thousands)		
Provision at statutory rate	\$ (31,448)	\$ 11,359	\$ 7,423
Deferred tax asset valuation allowance	10,324	(5,733)	(5,832)
Foreign earnings taxed at different foreign rates	4,926	1,476	(622)
State taxes, net of Federal benefit	23	1,000	92
Nondeductible stock option expense	771	517	436
Net operating losses used to reduce goodwill	-	421	1,508
Foreign earnings taxed at U.S. rate	288	362	276
Settlement with foreign tax authorities	-	-	(47)
Tax credit	6,397	-	-
Impairment expense	7,315	-	-
True up of deferred tax asset	4,394	(4,414)	-
Foreign tax credit	(332)	(285)	-
Other	(347)	198	860
Total provision for income taxes	\$ 2,311	\$ 4,901	\$ 4,094

The valuation allowance at December 31, 2008 and 2007 is attributable to Federal and state deferred tax assets, as well as foreign deferred tax assets. The Company's valuation allowance was determined in accordance with the provisions of SFAS No. 109, *Accounting for Income Taxes*, which requires an assessment of both positive and negative evidence when determining whether it is more likely than not that deferred assets are recoverable, with such assessment being required on a jurisdiction by jurisdiction basis. Management believes that sufficient uncertainty exists with regard to the realizability of these tax assets such that a valuation allowance is necessary. Factors considered in providing a valuation allowance include the lack of a significant history of consistent profits, the current weakness in the overall semiconductor market thereby negatively impacting the Company's ability to sustain or grow revenues and earnings and the lack of carry-back capacity to realize these assets. Based on the absence of sufficient positive objective evidence, management is unable to assert that it is more likely than not that the Company will generate sufficient taxable income to realize these remaining net deferred tax assets. The amount of the deferred tax asset valuation allowance, however, could be reduced in future periods to the extent that future taxable income is realized.

As of December 31, 2008, the Company had Federal and state net operating loss carryforwards of approximately \$312.9 million and \$136.6 million, respectively, which will begin expiring in 2018 and 2014. The Company also has foreign net operating loss carryforwards in Canada, Japan, and Germany of approximately \$15.2 million, \$3.0 million, and \$18.2 million, respectively. Canada and Japan net operating loss carryforwards will begin expiring in 2012 and 2009, respectively. The German net operating loss carryforward has an indefinite carryover life.

The Federal and state net operating losses acquired from the STEAG Semiconductor Division, CFM and Concept acquisitions are also subject to change in control limitations as defined in Section 382 of the Internal Revenue Code. Furthermore, the Company had a change in control in April 2002, which limited its net operating losses generated prior to the date the ownership change occurred. If certain substantial changes in the Company's ownership occur, there would be an additional annual limitation on the amount of the net operating loss carryforwards that can be utilized. The Company acquired \$48.0 million of deferred tax assets as a result of its acquisitions of the Vortek, STEAG Semiconductor Division, CFM and Concept Systems Design, Inc.

As of December 31, 2008, the Company had research and development credit carryforwards of approximately \$3.8 million and \$4.0 million for Federal and state income tax purposes, respectively. If not utilized, the Federal carryforward will expire in various amounts beginning in 2026. The California tax credit can be carried forward indefinitely.

The Company intends to permanently reinvest all foreign unremitted earnings of foreign subsidiaries outside of the U.S. The Company's permanently reinvested non-U.S. earnings have been deployed in active business operations, and

it is unlikely that the Company will repatriate any portion of its permanently reinvested non-U.S. earnings in the future. During the twelve months ended December 31, 2008, due to the global economic downturn, Mattson initiated a one-time repatriation of approximately \$23.7 million from Mattson International to Mattson U.S.

As of December 31, 2008, the Company's total unrecognized tax benefits were approximately \$36.3 million exclusive of interest and penalties described below. Included in the \$36.3 million is approximately \$9.2 million of unrecognized tax benefits that, if recognized, would favorably affect the effective tax rate in a future period. The Company cannot estimate the range of cash payments that will be made within the next twelve months associated with its uncertain tax positions.

The Company's practice is to recognize interest and/or penalties related to unrecognized tax benefits in income tax expense. Income tax expense included an estimated interest of \$0.3 million, and \$0.6 million for 2008 and 2007 respectively. As of December 31, 2008 and 2007, the Company had \$1.3 million and \$1.1 million respectively accrued for estimated interest. As of December 31, 2008 and 2007, the Company had \$0.1 million accrued for estimated penalties. Included in the balance of unrecognized tax benefits at December 31, 2008 is \$2.8 million related to tax positions and estimated interest and penalties for which it is reasonably possible that the statute of limitations will expire in various foreign jurisdictions within the next twelve months.

The Company and its subsidiaries are subject to United States federal income tax as well as to income taxes in Germany and various other foreign and state jurisdictions. The Company's Federal and state income tax returns are generally not subject to examination by tax authorities for years before 2003. The Company's German income tax returns are currently under examination for the tax years 2001 to 2004. The Company has not received any written notice for this German tax audit. Management does not anticipate any adjustments, however, the final outcome of the examination could result in material changes to the Company's financial position.

A reconciliation of the January 1, 2008 through December 31, 2008 amount of unrecognized tax benefits is as follows:

	Year Ended December 31, 2008	Year Ended December 31, 2007
	(millions)	(millions)
Balance at the beginning of the year	\$ 29.6	\$ 25.2
Increases for tax positions related to the prior year	7.6	3.8
Effect of exchange rates on tax positions	(0.7)	0.9
Expiration of statutes of limitations	(0.2)	(0.3)
Balance at the end of the year	\$ 36.3	\$ 29.6

18. Net Income Per Share

Net income per share is calculated in accordance with SFAS No. 128, *Earnings Per Share*, which requires dual presentation of basic and diluted net income per share on the face of the income statement. Basic earnings per share is computed by dividing net income by the weighted-average number of shares of common stock outstanding for the period. Diluted net income per share is computed using the weighted-average number of shares of common stock outstanding plus the effect of all dilutive securities representing potential shares of common stock outstanding during the period. For purposes of computing diluted net income per share, weighted average common stock equivalents do not include stock options with an exercise price that exceeded the average market price of the Company's common stock for the period.

The following table summarizes the incremental shares of common stock from these potentially dilutive securities, calculated using the treasury stock method:

	Year Ended December 31,		
	2008	2007	2006
		(thousands)	
Weighted average common shares outstanding - basic	49,471	51,771	52,357
Diluted potential common shares from stock options and restricted stock units	-	945	1,011
Weighted average common shares - diluted	49,471	52,716	53,368

There were no stock options or unvested restricted stock units factored into the computation of diluted shares for the year ended December 31, 2008, since the Company has incurred a net loss. Total stock options outstanding at December 31, 2007 and 2006 of 3.8 million and 2.9 million, respectively, were excluded from the computations, as their inclusion would have been antidilutive.

19. Related Party Transactions

There were no related party transactions in 2008. In Japan, through May 2007, the Company contracted outsource installation and repair services and sells spare parts through an unrelated party, Mattson Service Company (MSC). A director of the Company, Shigeru Nakayama, holds a minority interest in MSC. In 2007 and 2006, the value of spare parts and services transactions between the Company and MSC were \$0.5 million and \$4.2 million, respectively. The Company's management believes that the payments of commissions to MSC related to the sales of spare parts to customers in Japan and the purchases of contract installation and repair services from MSC were on terms that represent the market value of these transactions.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Mattson Technology, Inc.

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of income, stockholders' equity and cash flows present fairly, in all material respects, the financial position of Mattson Technology, Inc. and its subsidiaries at December 31, 2008 and 2007 and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2008 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule listed in the accompanying index appearing under Item 15(a)(2) presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements.

Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2008 based on criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements schedules, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting under Item 9(a). Our responsibility is to express opinions on these financial statements, on the financial statements, financial statement schedule, and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

As discussed in Note 2 to the consolidated financial statements, in fiscal 2007, the Company changed the manner in which it accounts for uncertainty in income taxes and the manner in which it accounts for sabbatical leave and other similar benefits.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP
San Jose, California
March 6, 2009

Supplementary Financial Information

Selected Quarterly Consolidated Financial Data (Unaudited)

The following tables set forth our unaudited condensed consolidated income (loss) statement data for each of the eight quarterly periods ended December 31, 2008. We have prepared this unaudited information on a basis consistent with our audited consolidated financial statements, reflecting all normal recurring adjustments that we consider necessary for a fair presentation of our financial position and operating results for the fiscal quarters presented. Basic and diluted earnings per share are computed independently for each of the quarters presented. Therefore, the sum of quarterly basic and diluted per share information may not equal annual basic and diluted earnings per share.

	Three Months Ended			
	March 30, 2008	June 29, 2008	September 28, 2008	December 31, 2008
	(thousands, except per share amounts)			
Net sales	\$ 48,655	\$ 41,790	\$ 30,041	\$ 13,065
Gross profit	\$ 20,834	\$ 18,445	\$ 7,670	\$ 597
Income from operations	\$ (3,915)	\$ (7,238)	\$ (21,170)	\$ (59,502)
Net loss	\$ (4,216)	\$ (6,754)	\$ (20,737)	\$ (60,456)
Net loss per share:				
Basic	\$ (0.09)	\$ (0.14)	\$ (0.42)	\$ (1.22)
Diluted	\$ (0.09)	\$ (0.14)	\$ (0.42)	\$ (1.22)
Shares used in computing net loss per share:				
Basic	49,362	49,419	49,481	49,614
Add: dilutive effect from stock options and restricted stock units	-	-	-	-
Diluted	<u>49,362</u>	<u>49,419</u>	<u>49,481</u>	<u>49,614</u>

	Three Months Ended			
	April 1, 2007	July 1, 2007	September 30, 2007	December 31, 2007
	(thousands, except per share amounts)			
Net sales	\$ 69,941	\$ 86,544	\$ 58,480	\$ 52,321
Gross profit	\$ 31,228	\$ 41,635	\$ 25,680	\$ 24,668
Income from operations	\$ 6,011	\$ 15,524	\$ 1,529	\$ 1,177
Net income	\$ 7,651	\$ 11,547	\$ 3,572	\$ 4,783
Net income per share:				
Basic	\$ 0.15	\$ 0.22	\$ 0.07	\$ 0.09
Diluted	\$ 0.14	\$ 0.22	\$ 0.07	\$ 0.09
Shares used in computing net income per share:				
Basic	52,562	52,531	51,397	50,598
Add: dilutive effect from stock options and restricted stock units	978	1,096	1,033	737
Diluted	<u>53,540</u>	<u>53,627</u>	<u>52,430</u>	<u>51,335</u>

Operating expenses for the second quarter of 2008 included \$0.7 million in restructuring expenses for severance costs related to a 5 percent headcount reduction, primarily in the office support organizations. Operating expenses for the third quarter of 2008, included severance expenses of \$1.9 million for a Cost Alignment Plan to reduce headcount by 11 percent and optimize facilities worldwide. Operating expenses for the fourth quarter included significant items totaling \$30.9 million, related to restructuring charges of \$3.4 million, impairment of goodwill of \$18.1 million and impairment of intangible and long-lived assets of \$9.4 million. These charges were the result of the impact our customers and we are facing from the weakness in the semiconductor equipment market and the global economic crisis. In the fourth quarter, we implemented a reorganization to streamline the organization and reduce costs of operations. The impairments of goodwill, intangibles and long-lived assets resulted from an review of our assets under SFAS No.142, *Goodwill and Intangible Assets* and SFAS. No.144, *Accounting for Impairment or Disposal of Intangibles or Long-Lived Assets*. Operating expenses for the fourth quarter also included \$3.3 million in additional allowances for bad debts and \$3.4 million in amortization of evaluation tools placed at customer sites.

Operating expenses for the first quarter of 2007 were reduced by \$1.6 million due to the release of amounts previously accrued as we completed all remaining obligations under a foreign government-funded capital development project. The second quarter of 2007 included \$3.8 million in income tax expense related to a ruling on the applicability of tax law in one of our foreign locations. Additionally, in the third quarter of 2007, we recorded a benefit of \$0.3 million for Federal taxes and \$1.2 million for foreign taxes based on a change in management's estimate of future tax benefits.

Item 9. *Changes in and Disagreements with Accountants on Accounting and Financial Disclosure*

None.

Item 9A. *Controls and Procedures*

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, conducted an evaluation of our disclosure controls and procedures, as such term is defined in Rule 13a-15(e) promulgated under the Securities Exchange Act of 1934, as amended, as of December 31, 2008. Our disclosure controls and procedures are intended to ensure that the information we are required to disclose in the reports that we file or submit under the Securities Exchange Act of 1934 is (i) recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and (ii) accumulated and communicated to our management, including the Chief Executive Officer and Chief Financial Officer, as the principal executive and financial officers, respectively, to allow timely decisions regarding required disclosures. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this report.

It should be noted that any system of controls, however well designed and operated, can provide only reasonable, and not absolute, assurance that the objectives of the system will be met. In addition, the design of any control system is based in part upon certain assumptions about the likelihood of future events.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting; as such term is defined in Rule 13a-15(f) under the Securities Exchange Act of 1934, as amended. A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and disposition of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in

accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2008. In making this assessment, management used the criteria set forth in the framework established by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) entitled *Internal Control—Integrated Framework*. Based on our evaluation under the framework in *Internal Control—Integrated Framework*, our management concluded that our internal control over financial reporting was effective as of December 31, 2008.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2008 has been audited by PricewaterhouseCoopers, LLP, an independent registered public accounting firm, as stated in their report, which appears in Item 8 of this report.

Changes in Internal Control over Financial Reporting

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, also conducted an evaluation of our internal control over financial reporting to determine whether any change occurred during the fourth quarter of 2008 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. Based on that evaluation, our management concluded that there was no such change during the fourth quarter.

Item 9B. Other Information

None.

PART III

Item 10. Directors and Executive Officers of the Registrant

For information with respect to our executive officers, see Part I of this Annual Report on Form 10-K, under the caption "Executive Officers of the Registrant." The other information required by this item will be set forth in our 2009 Proxy Statement under the captions "Election of Directors," "Report of the Audit Committee" and "Section 16(a) Beneficial Ownership Reporting Compliance" and is incorporated herein by reference.

We have adopted a Code of Ethics and Business Conduct for all officers, directors and employees. We have posted the Code of Ethics and Business Conduct on our website located at www.mattson.com. We intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding an amendment to, or a waiver from, this Code of Ethics by posting such information on our website.

Item 11. Executive Compensation

The information required by this item will be set forth in our 2009 Proxy Statement under the captions "Executive Compensation" and "Report of the Compensation Committee on Executive Compensation" and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Information related to the security ownership of certain beneficial owners and management will be set forth in our 2009 Proxy Statement under the caption “Security Ownership of Management and Principal Stockholders,” and is incorporated herein by reference. For information with respect to our securities authorized for issuance under our equity compensation plans, see Item 5 of Part II of this Annual Report on Form 10-K, under “Equity Compensation Plan Information.”

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item will be set forth in our 2009 Proxy Statement under the caption “Certain Relationships and Related Transactions, and Director Independence” and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

The information required by this item will be set forth in our 2009 Proxy Statement under the captions “Audit and Related Fees” and “Policy on Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Independent Auditors” and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a)(1) Financial Statements

The financial statements filed as part of this report are listed on the Index to Consolidated Financial Statements in Item 8.

(a)(2) Financial Statement Schedules

Schedule II — Valuation and Qualifying Accounts for the three years ended December 31, 2008, 2007 and 2006, which is included in Schedule II of this Form 10-K.

(a)(3) Exhibits

<u>Exhibit Number</u>	<u>Description</u>	<u>Notes</u>
3.1	Amended and Restated Certificate of Incorporation of Mattson Technology, Inc.	(1)
3.2	Third Amended and Restated Bylaws of Mattson Technology, Inc.	(2)
4.1	Form of Senior Indenture.	(3)
4.2	Form of Senior Debt security (included in Exhibit 4.1).	
4.3	Form of Subordinated Indenture.	(3)
4.4	Form of Subordinated Debt security (Included in Exhibit 4.3).	
4.5	Form of Rights Agreement between the Company and Mellon Investor Services, LLC as Rights Agent (including as <u>Exhibit A</u> the form of Certificate of Designation, Preferences and Rights of the Terms of the Series A Preferred Stock, as <u>Exhibit B</u> the form of Right Certificate, and as <u>Exhibit C</u> the Summary of Terms of Rights Agreement)	(4)
4.6	Amendment No. 1 to Rights Agreement between the Company and Mellon Investor Services, LLC as Rights Agent	(5)

4.7	Amendment No. 2 to Rights Agreement between the Company and Mellon Investor Services, LLC as Rights Agent	(16)
10.1	2005 Equity Incentive Plan	(6) (C)
10.2	Amendment #1 to 2005 Equity Incentive Plan	(7) (C)
10.3	Nonqualified Deferred Compensation Plan	(8) (C)
10.4	1989 Stock Option plan, as amended	(2) (C)
10.5	1994 Employee Stock Purchase Plan	(9) (C)
10.6	Form of Indemnity Agreement	(10) (C)
10.7	Executive Change of Control agreement between Mattson Technology, Inc. and David Dutton, dated as of March 4, 2002.	(2) (C)
10.8	Form of Executive Change of Control agreement Between Mattson Technology, Inc. and its Executive Vice Presidents and Product Division Presidents.	(2) (C)
10.9	Separation Agreement Between Robert MacKnight and Mattson Technology, Inc.	(11) (C)
10.10	Industrial Space Lease, dated August 1, 2005, between the Company and Renco Equities IV, a California partnership.	(12)
10.11	Sublease agreement dated February 27, 2003, by and between Lam Research Corporation, a Delaware Corporation, and Mattson Technology, Inc., a Delaware Corporation, for lease of building.	(13)
10.12	Lease agreement dated September 2, 2001, by and between Renco Equities IV, a California partnership, and Lam Research Corporation, a Delaware Corporation, for lease of building.	(13)
10.13	Form of Performance Based Restricted Stock Units Agreement between Mattson Technology and some employees	(14)
10.14	Separation Agreement between Mattson Technology, Inc. and Bill Turner.	(15) (C)
10.15	Form of Severance and Executive Change of Control Agreement for David Dutton, Chief Executive Officer, and executive Change of Control Agreement for Andy Moring, Chief Financial Officer, Nigel Wenden, Senior Vice-President, Global Business Operations, and certain other executives.	(17) (C)
21.1	Subsidiaries of Registrant.	
23.1	Consent of Independent Registered Public Accounting Firm	
31.1	Certification of Chief Executive Officer Pursuant to Sarbanes-Oxley Act Section 302(a).	
31.2	Certification of Chief Financial Officer Pursuant to Sarbanes-Oxley Act Section 302(a).	
32.1	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350.	
32.2	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350.	

Notes:

(C) Management contract or compensatory plan or arrangement.

(1) Incorporated by reference to corresponding exhibit to Mattson Technology, Inc. current report on Form 8-K/A filed on January 30, 2001.

(2) Incorporated by reference to corresponding exhibit to Mattson Technology, Inc. quarterly report on Form 10-Q filed on August 14, 2002.

- (3) Incorporated by reference to corresponding exhibit to Mattson Technology, Inc. registration statement on Form S-3 (File No. 333-111527) filed on December 23, 2003.
- (4) Incorporated by reference to corresponding exhibit to Mattson Technology, Inc. current report on Form 8-A12G filed on August 22, 2005.
- (5) Incorporated by reference to corresponding exhibit to Mattson Technology, Inc. annual report on Form 10-K filed on March 2, 2007.
- (6) Incorporated by reference to Appendix A to Mattson Technology, Inc. proxy statement filed on April 20, 2005.
- (7) Incorporated by reference to Appendix I to Mattson Technology, Inc. proxy statement filed on April 26, 2007.
- (8) Incorporated by reference to corresponding exhibit to Mattson Technology, Inc. current report on Form S-8 filed on December 16, 2005.
- (9) Incorporated by reference to corresponding exhibit to Mattson Technology, Inc. quarterly report on Form 10-Q filed on August 6, 2004.
- (10) Incorporated by reference to Appendix B to the Mattson Technology, Inc. proxy statement filed on June 20, 1997.
- (11) Incorporated by reference to corresponding exhibit to Mattson Technology, Inc. current report on Form 8-K filed on November 14, 2007.
- (12) Incorporated by reference to corresponding exhibit to Mattson Technology, Inc. quarterly report on Form 10-Q filed on November 4, 2005.
- (13) Incorporated by reference to corresponding exhibit to Mattson Technology, Inc. quarterly report on Form 10-Q filed on May 14, 2003.
- (14) Incorporated by reference to corresponding exhibit to Mattson Technology, Inc. quarterly report on Form 10-Q filed on May 09, 2008.
- (15) Incorporated by reference to corresponding exhibit to Mattson Technology, Inc. current report on Form 8-K filed on June 23, 2008.
- (16) Incorporated by reference to corresponding exhibit to Mattson Technology, Inc. current report on Form 8-K filed on July 14, 2008.
- (17) Incorporated by reference to the corresponding exhibit to Mattson Technology, Inc current report on Form 8-K filed on September 17, 2008.

**SCHEDULE II
VALUATION AND QUALIFYING ACCOUNTS**

Allowance for Doubtful Accounts

<u>Fiscal Year</u>	<u>Balance at Beginning of Year</u>	<u>Charged (Credited) to Income</u>	<u>Deductions and Other</u>	<u>Balance at End of Year</u>
	(thousands)			
2008	\$ 1,463	\$ 3,355	\$ (212)	\$ 4,606
2007	\$ 3,222	\$ (1,034)	\$ (725)	\$ 1,463
2006	\$ 3,591	\$ 552	\$ (921)	\$ 3,222

Schedules other than those listed above have been omitted since they are either not required, not applicable, or because the information required is included in the consolidated financial statements or the notes thereto.

**MATTSON TECHNOLOGY, INC.
SUBSIDIARIES OF THE REGISTRANT**

Mattson International, Inc.
Mattson Technology Holdings, LLC
Mattson Wet Products, Inc.
STEAG CVD Systems Ltd.
Mattson Technology Japan K.K.
Mattson International Korea Co.
Mattson Technology Singapore Pte. Ltd.
Mattson International, Inc. Taiwan Branch *
Mattson Technology Holding GmbH
Mattson International GmbH
Mattson Thermal Products GmbH
Mattson International France Sarl
Mattson Technology Srl (in liquidation)
Mattson Trading (Shanghai) Co., Ltd.
Mattson Technology Cayman Holdings, Ltd.
Mattson Technology Canada, Inc.
Mattson Technology Israel Ltd.

*Note: this is not a subsidiary, but a branch registration

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 33-85272, 33-94972, 333-87715, 333-39129, 333-41954, 333-54010, 333-59859, 333-63156, 333-100094, 333-113683, 333-119799, 333-128529, and 333-130419) and the Registration Statements on Form S-3 (Nos. 333-111527 and 333-86072) of Mattson Technology, Inc. of our report dated March 6, 2009, relating to the financial statements, financial statement schedule and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

San Jose, California
March 6, 2009

MATTSON TECHNOLOGY, INC.
SARBANES-OXLEY ACT SECTION 302(a) CERTIFICATION

I, David Dutton, certify that:

1. I have reviewed this annual report on Form 10-K of Mattson Technology, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 6, 2009

/s/ DAVID DUTTON

David Dutton

Chief Executive Officer

MATTSON TECHNOLOGY, INC.
SARBANES-OXLEY ACT SECTION 302(a) CERTIFICATION

I, Andy Moring, certify that:

1. I have reviewed this annual report on Form 10-K of Mattson Technology, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 6, 2009

/s/ ANDY MORING

Andy Moring
*Executive Vice President – Finance and Chief
Financial Officer*

**Certification of Chief Executive Officer
Pursuant to 18 U.S.C. Section 1350,
As Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

In connection with the Annual Report of Mattson Technology, Inc. (the Company) on Form 10-K for the year ended December 31, 2008 as filed with the Securities and Exchange Commission on the date hereof (the Report), David Dutton, as Chief Executive Officer of the Company, hereby certifies, pursuant to 18 U.S.C. §. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

Date: March 6, 2009

/s/ DAVID DUTTON

David Dutton

Chief Executive Officer

**Certification of Chief Financial Officer
Pursuant to 18 U.S.C. Section 1350,
As Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

In connection with the Annual Report of Mattson Technology, Inc. (the Company) on Form 10-K for the year ended December 31, 2008 as filed with the Securities and Exchange Commission on the date hereof (the Report), Andy Moring, as Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. §. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

Date: March 6, 2009

/s/ ANDY MORING

Andy Moring
Executive Vice President – Finance and Chief
Financial Officer