UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

(MARK ONE)

[X] QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended March 31, 2005

or

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

For the transition period from ___________ to ____________

Commission file number 0-23621

MKS INSTRUMENTS, INC.

(Exact name of registrant as specified in its charter)

Massachusetts	04-2277512
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
90 Industrial Way, Wilmington, Massachusetts	01887
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code (978) 284-4000

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

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Exchange Act). Yes [X] No [ ].

Number of shares outstanding of the issuer's common stock as of April 28, 2005: 53,930,001

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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS.

MKS INSTRUMENTS, INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except share data)

	March 31, 2005 (Unaudited)	December 31, 2004
ASSETS		
Current assets:		
Cash and cash equivalents	$ 150,233	$ 138,389
Short-term investments	94,684	97,511
Trade accounts receivable, net	82,770	82,315
Inventories	97,663	99,633
Deferred income taxes	11,638	12,129
Other current assets	10,348	9,908
Total current assets	447,336	439,885
Long-term investments	2,597	4,775
Property, plant and equipment, net	80,197	80,917
Goodwill, net	256,114	255,740
Acquired intangible assets, net	37,806	41,604
Deferred income taxes	2,237	2,184
Other assets	3,145	3,572
Total assets	$ 829,432	$ 828,677
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Short-term borrowings	$ 19,742	$ 22,440
Current portion of long-term debt	2,060	2,069
Accounts payable	26,283	23,338
Accrued compensation	10,650	13,767
Income taxes payable	8,814	9,133
Other accrued expenses	19,716	21,438
Total current liabilities	87,265	92,185
Long-term debt	6,690	6,667
Other liabilities	3,621	3,191
Commitments and contingencies (Note 9)		
Stockholders' equity:		
Preferred Stock, $0.01 par value, 2,000,000 shares authorized; none issued and outstanding	-	-
Common Stock, no par value, 200,000,000 shares authorized; 53,924,201 and 53,839,098 issued and outstanding at March 31, 2005 and December 31, 2004, respectively	113	113
Additional paid-in capital	632,808	631,760
Retained earnings	87,535	82,077
Accumulated other comprehensive income	11,400	12,684
Total stockholders' equity	731,856	726,634
Total liabilities and stockholders' equity	$ 829,432	$ 828,677

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

MKS INSTRUMENTS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)
(Unaudited)

	Three Months Ended March 31, 2005	Three Months Ended March 31, 2004
Net sales	$ 127,407	$ 132,985
Cost of sales	78,045	78,756
Gross profit	49,362	54,229
Research and development	14,549	14,336
Selling, general and administrative	23,849	20,152
Amortization of acquired intangible assets	3,690	3,693
Restructuring charges	454	437
Income from operations	6,820	15,611
Interest expense	174	152
Interest income	1,272	424
Income before income taxes	7,918	15,883
Provision for income taxes	2,460	3,177
Net income	$ 5,458	$ 12,706
Net income per share:		
Basic	$ 0.10	$ 0.24
Diluted	$ 0.10	$ 0.23
Weighted average common shares outstanding:		
Basic	53,878	53,255
Diluted	54,393	55,085

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

MKS INSTRUMENTS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)
(Unaudited)

	Three Months Ended March 31, 2005	Three Months Ended March 31, 2004
Cash flows from operating activities:		
Net income	$ 5,458	$ 12,706
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	6,713	6,913
Other	107	126
Changes in operating assets and liabilities:		
Trade accounts receivable	(1,785)	(21,590)
Inventories	699	(12,276)
Other current assets	(547)	(2,520)
Accrued expenses and other current liabilities	(2,646)	5,745
Accounts payable	1,802	8,991
Income taxes payable	84	8,631
Net cash provided by operating activities	9,885	6,726
Cash flows from investing activities:		
Purchases of short-term and long-term available for sale investments	(45,434)	(44,030)
Maturities and sales of short-term and long-term available for sale investments	51,937	23,240
Purchases of property, plant and equipment	(2,342)	(4,248)
Other	366	802
Net cash provided by (used in) investing activities	4,527	(24,236)
Cash flows from financing activities:		
Proceeds from short-term borrowings	21,067	23,452
Payments on short-term borrowings	(22,982)	(21,576)
Principal payments on long-term debt	(390)	(486)
Proceeds from issuance of common stock, net of issuance costs	-	32,529
Proceeds from exercise of stock options and employee stock purchase plan	746	1,895
Net cash (used in) provided by financing activities	(1,559)	35,814
Effect of exchange rate changes on cash and cash equivalents	(1,009)	(1,032)
Increase in cash and cash equivalents	11,844	17,272
Cash and cash equivalents at beginning of period	138,389	74,660
Cash and cash equivalents at end of period	$150,233	$ 91,932

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

(Tables in thousands, except per share data)

1) Basis of Presentation

The terms "MKS" and the "Company" refer to MKS Instruments, Inc. and its subsidiaries. The interim financial data as of March 31, 2005 and for the three months ended March 31, 2005 and 2004 is unaudited; however, in the opinion of MKS, the interim data includes all adjustments, consisting only of normal recurring adjustments, necessary for a fair statement of the results for the interim periods. The unaudited consolidated financial statements presented herein have been prepared in accordance with the instructions to Form 10-Q and do not include all of the information and note disclosures required by generally accepted accounting principles. The consolidated financial statements should be read in conjunction with the December 31, 2004 audited consolidated financial statements and notes thereto included in the MKS Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 16, 2005.

The preparation of these consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. On an on-going basis, management evaluates its estimates and judgments, including those related to revenue recognition, accounts receivable, inventory, intangible assets, goodwill, other long-lived assets, income taxes, deferred tax valuation allowance and investments. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments 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.

2) Stock-Based Compensation

The Company has several stock-based employee compensation plans. The Company accounts for stock-based awards to employees using the intrinsic value method as prescribed by Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees," and related interpretations. Accordingly, no compensation expense is recorded for options issued to employees in fixed amounts with fixed exercise prices at least equal to the fair market value of the Company's common stock at the date of grant. The Company has adopted the provisions of Statement of Financial Accounting Standards ("SFAS") No. 123, "Accounting for Stock-Based Compensation," as amended by SFAS No. 148, "Accounting for Stock-Based Compensation-Transition and Disclosure," ("SFAS 123") through disclosure only.

The following table illustrates the effect on net income and net income per share if the Company had applied the fair value recognition provisions of SFAS No. 123 to stock-based employee awards.

	Three Months Ended March 31, 2005	Three Months Ended March 31, 2004
Net income as reported	$ 5,458	$ 12,706
Deduct: Total stock-based employee compensation expense determined under the fair-value-based method for all awards, net of tax	(18,890)	(6,074)
Pro forma net income (loss)	$ (13,432)	$ 6,632
Basic net income (loss) per share:		
As reported	$ 0.10	$ 0.24
Pro forma	$ (0.25)	$ 0.12
Diluted net income (loss) per share:		
As reported	$ 0.10	$ 0.23
Pro forma	$ (0.25)	$ 0.12

(Tables in thousands, except per share data)

There was no tax benefit included in the stock-based employee compensation expense determined under the fair-value-based method for the three months ended March 31, 2004, as the Company had a full valuation allowance for its net deferred tax assets at March 31, 2004. For the three months ended March 31, 2005, stock-based employee compensation expense is net of the related tax benefit.

In December 2004, the FASB issued Statement of Financial Accounting Standards No. 123R, "Share-Based Payment" ("SFAS 123R"). SFAS 123R replaces SFAS 123 and supersedes APB 25. SFAS 123R focuses primarily on the accounting for transactions in which an entity obtains employee services in share-based payment transactions. SFAS 123R requires companies to recognize in the statement of operations the cost of employee services received in exchange for awards of equity instruments based on the grant-date fair value of those awards. SFAS 123R was originally expected to be effective for the Company beginning in its third quarter of fiscal 2005. In April 2005, the effective date was amended by the Securities and Exchange Commission. As a result, SFAS 123R is now effective for the Company as of the first annual period that begins after June 15, 2005. Accordingly, the Company will adopt SFAS 123R in its first quarter of fiscal 2006. The Company expects to use the modified-prospective transition method and will not restate prior periods for the adoption of SFAS 123R. Although the Company is currently evaluating the provisions of SFAS 123R and its implications on its employee benefit plans, it believes that the adoption of this standard, based on the terms of the options outstanding at March 31, 2005, will have a material effect on its net income for the year ending December 31, 2006.

On January 7, 2005, the Company accelerated the vesting of outstanding stock options granted to employees and officers with an exercise price of $23.00 or greater. As a result of this action, options to purchase approximately 1.6 million shares of the Company's common stock became exercisable on January 7, 2005. No compensation expense was recorded in the Company's Consolidated Statement of Operations for the three months ended March 31, 2005 related to this action as these options had no intrinsic value on January 7, 2005. For purposes of the SFAS No. 123 proforma calculation above, the expense related to the options that were accelerated was $16,886,000, net of tax, for the three months ended March 31, 2005. The reason that the Company accelerated the vesting of the identified stock options was to reduce the Company's compensation expense in periods subsequent to the adoption of SFAS 123R.

3) Goodwill and Intangible Assets

Intangible Assets

Acquired amortizable intangible assets consisted of the following as of March 31, 2005:

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Completed technology	$ 72,632	$(43,049)	$29,583
Customer relationships	6,640	(3,811)	2,829
Patents, trademarks, tradenames and other	12,393	(6,999)	5,394
	$ 91,665	$(53,859)	$37,806

Acquired amortizable intangible assets consisted of the following as of December 31, 2004:

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Completed technology	$ 72,738	$(39,969)	$32,769
Customer relationships	6,640	(3,581)	3,059
Patents, trademarks, tradenames and other	12,395	(6,619)	5,776
	$ 91,773	$(50,169)	$41,604

(Tables in thousands, except per share data)

Aggregate amortization expense related to acquired intangibles for the three months ended March 31, 2005 and 2004 was $3,690,000 and $3,693,000, respectively. Estimated amortization expense related to acquired intangibles for the remainder of 2005 and for each of the four succeeding fiscal years is as follows:

Year	Amount
2005	$10,173
2006	11,763
2007	11,129
2008	2,759
2009	1,205

Goodwill

The change in the carrying amount of goodwill during the three months ended March 31, 2005 was not material.

4) Net Income Per Share

The following table sets forth the computation of basic and diluted net income per share:

	Three Months Ended March 31, 2005	Three Months Ended March 31, 2004
Numerator		
Net income	$ 5,458	$ 12,706
Denominator		
Shares used in net income per common share - basic	53,878	53,255
Effect of dilutive securities:		
Stock options and employee stock purchase plan	515	1,830
Shares used in net income per common share - diluted	54,393	55,085
Net income per common share		
Basic	$ 0.10	$ 0.24
Diluted	$ 0.10	$ 0.23

For purposes of computing diluted net income per common share, 7,164,024 and 2,543,000 outstanding options for the three months ended March 31, 2005 and 2004, respectively, were excluded from the calculation as their inclusion would be anti-dilutive. There were options to purchase approximately 9,938,150 and 9,111,000 shares of the Company's common stock outstanding as of March 31, 2005 and 2004, respectively.

5) Inventories

Inventories consist of the following:

	March 31, 2005	December 31, 2004
Raw material	$49,537	$46,479
Work in process	19,895	18,330
Finished goods	28,231	34,824
	$97,663	$99,633

(Tables in thousands, except per share data)

6) Stockholders' Equity

Comprehensive Income

Components of comprehensive income were as follows:

	Three Months Ended March 31, 2005	Three Months Ended March 31, 2004
Net income	$ 5,458	$ 12,706
Other comprehensive income (loss):		
Changes in value of financial instruments designated as cash flow hedges (net of taxes of $515 and $0, respectively)	856	510
Foreign currency translation adjustment	(2,078)	54
Unrealized gain (loss) on investments (net of tax benefit of $38 and $0, respectively)	(62)	26
Other comprehensive income (loss)	(1,284)	590
Total comprehensive income	$ 4,174	$ 13,296

Common Stock Offering

On January 21, 2004, the Company issued 1,142,857 shares of its common stock at $26.25 per share through a public offering. Proceeds of the offering, net of underwriters' discount and offering expenses, were approximately $28,251,000. On January 23, 2004, the underwriters exercised their over-allotment option and therefore, the Company issued an additional 171,429 shares of its common stock, which generated net proceeds of approximately $4,298,000.

7) Income Taxes

The Company records income taxes using the asset and liability method. Deferred income tax assets and liabilities are recognized for the future tax consequences attributable to differences between the consolidated financial statement carrying amounts of existing assets and liabilities and their respective income tax bases, and operating loss and tax credit carryforwards. The Company evaluates the realizability of its net deferred tax assets and assesses the need for a valuation allowance on a quarterly basis. The future benefit to be derived from its deferred tax assets is dependent upon its ability to generate sufficient future taxable income to realize the assets. The Company records a valuation allowance to reduce its net deferred tax assets to the amount that may be more likely than not to be realized. To the extent the Company establishes a valuation allowance, an expense will be recorded within the provision for income taxes line on the consolidated statements of operations.

As a result of incurring significant operating losses from 2001 through 2003, the Company established a full valuation allowance for its net deferred tax assets. During the fourth quarter of 2004, after examining a number of factors, including historical results and near term earnings projections, the Company determined that it was more likely than not that it would realize all of its net deferred tax assets, except for those related to certain state tax credits. At March 31, 2005, the Company continues to maintain a valuation allowance for certain state tax credits for which it is more likely than not that they will not be realized.

The Company's effective tax rate for the quarter ending March 31, 2005 was 31%. The effective tax rate is less than the statutory tax rate primarily due to the profits of the Company's international subsidiaries being taxed at rates lower than the U.S. statutory tax rate.

On October 22, 2004, the American Jobs Creation Act of 2004 (the "Act") was signed into law. The Act contains a provision allowing U.S. multinational companies a one-time incentive to repatriate foreign earnings at an effective tax rate of 5.25%. The Company has continued to examine the effects of the repatriation provision but is awaiting the issuance of clarifying regulations from the Treasury Department before completing its evaluation. Through March 31, 2005, the Company has not provided deferred income taxes on the undistributed earnings of its foreign subsidiaries because such earnings were intended to be permanently reinvested outside the U.S. Determination of the potential deferred income tax liability on these undistributed earnings is not practicable because such liability, if any, is dependent on circumstances existing if and when remittance occurs. At March 31, 2005, the Company had $58,213,000 of undistributed earnings in its foreign subsidiaries.

(Tables in thousands, except per share data)

8) Geographic, Product and Significant Customer Information

The Company operates in one segment for the development, manufacturing, sales and servicing of products that measure, control, power and monitor critical parameters of advanced manufacturing processes. The Company's chief decision maker reviews operating results for the entire Company to make decisions about allocating resources and assessing performance for the entire Company.

Information about the Company's operations in different geographic regions is presented in the tables below. Net sales to unaffiliated customers are based on the location in which the sale originated. Transfers between geographic areas are at negotiated transfer prices and have been eliminated from consolidated net sales.

	Three Months Ended March 31, 2005	Three Months Ended March 31, 2004
Geographic net sales		
United States	$ 77,917	$ 84,976
Japan	21,062	21,355
Europe	14,897	11,521
Asia	13,531	15,133
	$ 127,407	$ 132,985

	March 31, 2005	December 31, 2004
Long-lived assets:		
United States	$67,867	$68,719
Japan	6,042	6,202
Europe	5,304	5,544
Asia	4,129	4,024
	$83,342	$84,489

The Company groups its products into three product groups. Net sales for these product groups are as follows:

	Three Months Ended March 31, 2005	Three Months Ended March 31, 2004
Instruments and Control Systems	$ 60,850	$ 61,360
Power and Reactive Gas Products	52,359	54,805
Vacuum Products	14,198	16,820
	$ 127,407	$ 132,985

The Company had two customers comprising 15% and 10%, respectively, of net sales for the three months ended March 31, 2005 and one customer comprising 20% of net sales for the three months ended March 31, 2004.

9) Commitments and Contingencies

On April 3, 2003, Advanced Energy Industries, Inc. ("Advanced Energy") filed suit against MKS in federal district court in Colorado ("Colorado Action"), seeking a declaratory judgment that Advanced Energy's Xstream product does not infringe three patents held by MKS' subsidiary, Applied Science and Technology, Inc. ("ASTeX"). On May 14, 2003, MKS brought suit in federal district court in Delaware against Advanced Energy for infringement of five ASTeX patents (the "Delaware Action"), including the three patents at issue in the Colorado Action. MKS sought injunctive relief and damages for Advanced Energy's infringement. On December 24, 2003, the Colorado court granted our motion to transfer Advanced Energy's Colorado Action to Delaware. In connection with the jury trial, the parties agreed to present the jury with representative claims from three of the five ASTeX patents. On July 23, 2004, the jury found that Advanced Energy infringed all three patents. On March 31 and April 5, 2005, the Court issued orders concerning a number of pre- and post-trial motions. Several other post-trial motions remain pending. The Court referred several of the pending motions to a special master for decision, and the Court scheduled a hearing for May 26, 2005 to address scheduling issues, including the trial of any remaining issues in the Delaware Action. MKS expects that the second phase of trial will address MKS' claims of damages and willful infringement against Advanced Energy and will also address certain of Advanced Energy's affirmative defenses that remain in the Delaware Action. The parties are currently briefing issues that were referred to the special master for decision.

On November 3, 1999, On-Line Technologies, Inc. ("On-Line"), which was acquired by MKS in 2001, brought suit in federal district court in Connecticut against Perkin-Elmer, Inc. and certain other defendants for infringement of On-Line's patent related to its FTIR spectrometer product and related claims. The suit sought injunctive relief and damages for infringement. Perkin-Elmer, Inc. filed a counterclaim seeking invalidity of the patent, costs and attorneys' fees. In June 2002, the defendants filed a motion for summary judgment. In April 2003, the court granted the motion and dismissed the case. MKS appealed this decision to the federal circuit court of appeals. On October 13, 2004, the federal circuit court of appeals reversed the lower court's dismissal of certain claims in the case. Accordingly, the case has been remanded to the United States District Court in Connecticut for further proceedings on the merits of the remaining claims. On March 11, 2005, Perkin-Elmer, Inc. submitted to the court a stipulation agreeing that they have infringed a specified claim of On-Line's patent and filed a motion for summary judgment that such patent claim is invalid. On April 6, 2005, On-Line filed a reply to the summary judgment motion. The parties are awaiting the court's response to the motion.

The Company is subject to other legal proceedings and claims, which have arisen in the ordinary course of business.

In the opinion of management, the ultimate disposition of these matters will not have a material adverse effect on the Company's results of operations, financial condition or cash flows.

10) Restructuring Charges

As a result of the Company's various acquisitions from 2000 through 2002 and the downturn in the semiconductor capital equipment market which began in 2000, the Company had redundant activities and excess manufacturing capacity and office space. Therefore, in 2002 and continuing through the first quarter of 2004, the Company implemented restructuring activities to rationalize manufacturing operations and reduce operating expenses. As a result of these actions, the Company recorded restructuring, asset impairment charges and other charges of $2,726,000, $1,593,000 and $437,000 in 2002, 2003 and 2004, respectively. The charges consisted of $987,000 of severance costs related to workforce reductions, $2,810,000 related to consolidation of leased facilities, and asset impairment charges of $959,000 primarily related to the impairment of an intangible asset from the discontinuance of certain product development activities. The fair value of the impaired intangible asset was determined using the expected present value of future cash flows. The workforce reductions were across all functional groups.

(Tables in thousands, except per share data)

During the three months ended March 31, 2005, the Company initiated a restructuring plan related to its Berlin, Germany location. This consolidation of activities included the reduction of 16 employees. The total restructuring charge related to this consolidation was $454,000, which consisted of $251,000 related to the repayment of a government grant and $203,000 in severance costs. The Company expects to incur approximately $100,000 in additional severance charges through the end of 2005, when the plan should be completed.

The following table sets forth the activity in the restructuring accruals from December 31, 2004 to March 31, 2005:

	Workforce Reductions	Facility Consolidations	Other	Total
Balance as of December 31, 2004	$ 89	$1,532	$ -	$1,621
Restructuring provision in first quarter	203	-	251	454
Charges utilized in first quarter	(9)	(110)	-	(119)
Balance as of March 31, 2005	$ 283	$1,422	$ 251	$1,956

The remaining accruals for workforce reductions are expected to be paid by December of 2005. The facilities consolidation charges will be paid over the respective lease terms, the latest of which ends in 2008. The accruals for severance costs and lease payments are recorded in Other accrued expenses and Other liabilities in the consolidated balance sheets.

11) Product Warranties

The Company provides for the estimated costs to fulfill customer warranty obligations upon the recognition of the related revenue. While the Company engages in extensive product quality programs and processes, including actively monitoring and evaluating the quality of its component suppliers, the Company's warranty obligation is affected by product failure rates, utilization levels, material usage, and supplier warranties on parts delivered to the Company. Should actual product failure rates, utilization levels, material usage, or supplier warranties on parts differ from the Company's estimates, revisions to the estimated warranty liability would be required.

Product warranty activities for the three months ended March 31 were as follows:

	2005	2004
Balance at beginning of year	$7,601	$ 5,804
Provisions for product warranties during the first quarter	2,083	1,704
Direct charges to the warranty liability during the first quarter	(1,970)	(1,146)
Balance at the end of the first quarter	$7,714	$ 6,362

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

We believe that this Quarterly Report on Form 10-Q contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. When used herein, the words "believes," "anticipates," "plans," "expects," "estimates" and similar expressions are intended to identify forward-looking statements. These forward-looking statements reflect management's current opinions and are subject to certain risks and uncertainties that could cause results to differ materially from those stated or implied. We assume no obligation to update this information. Risks and uncertainties include, but are not limited to, those discussed in the section in this Report entitled "Factors That May Affect Future Results."

OVERVIEW

We are a leading worldwide provider of instruments, components, subsystems and process control solutions that measure, control, power and monitor critical parameters of semiconductor and other advanced manufacturing processes.

We are managed as one operating segment which is organized around three product groups: Instruments and Control Systems, Power and Reactive Gas Products, and Vacuum Products. Our products are derived from our core competencies in pressure measurement and control, materials delivery, gas and thin-film composition analysis, control and information management, power and reactive gas generation and vacuum technology. Our products are used to manufacture semiconductors and thin film coatings for diverse markets such as flat panel displays, optical and magnetic storage media, architectural glass, and electro-optical products. We also provide technologies for other markets, including the medical imaging equipment market.

Our customers include semiconductor capital equipment manufacturers, semiconductor device manufacturers, industrial manufacturing companies, medical equipment manufacturers and university, government and industrial research laboratories. For the three months ended March 31, 2005 and the full year ended December 31, 2004, we estimate that approximately 72% and 74% of our net sales, respectively, were to semiconductor capital equipment manufacturers and semiconductor device manufacturers.

During the latter half of 2003 and continuing into the first half of 2004, the semiconductor capital equipment market experienced a market upturn after a downturn of almost three years. Starting in the fourth quarter of 2003, we experienced an increase in orders and shipments and as a result have returned to profitability. Beginning in the third quarter of 2004 and continuing through the first quarter of 2005, our orders and sales have declined from the level achieved in the second quarter of 2004. We currently expect our second quarter 2005 sales to be approximately the same as sales for the first quarter of 2005. The semiconductor capital equipment industry is subject to rapid demand shifts which are difficult to predict.

A portion of our sales is to operations in international markets. International sales include sales by our foreign subsidiaries, but exclude direct export sales. For the three months ended March 31, 2005 and full year ended December 31, 2004, international sales accounted for approximately 39% and 34% of net sales, respectively.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The preparation of our consolidated financial statements and related disclosures in conformity with accounting principles generally accepted in the United States of America requires management to make judgments, assumptions and estimates that affect the amounts reported. There have been no material changes in our critical accounting policies since December 31, 2004. See the discussion of critical accounting policies in our Annual Report on Form 10-K for the year ended December 31, 2004.

RESULTS OF OPERATIONS

The following table sets forth for the periods indicated the percentage of total net sales of certain line items included in MKS' consolidated statements of operations data.

	Three Months Ended March 31, 2005	2004
Net sales	100.0%	100.0%
Cost of sales	61.3	59.2
Gross profit	38.7	40.8
Research and development	11.4	10.8
Selling, general and administrative	18.7	15.2
Amortization of acquired intangible assets	2.9	2.8
Restructuring, asset impairment and other charges	0.4	0.3
Income from operations	5.3	11.7
Interest income, net	0.9	0.2
Income before income taxes	6.2	11.9
Provision for income taxes	1.9	2.3
Net income	4.3%	9.6%

Net Sales (dollars in millions)

	Three Months Ended March 31, 2005	2004	% Change
Net sales	$127.4	$133.0	(4.2)%

Net sales decreased $5.6 million mainly due to a decrease in worldwide demand from our semiconductor capital equipment manufacturer and semiconductor device manufacturer customers, which decreased $8.9 million or 8.9% compared to the same period for the prior year. Offsetting this decrease was an increase of $4.1 million or 18.7%, compared to the same period for the prior year, for other non-semiconductor manufacturing applications which include, but are not limited to, industrial manufacturing, magnetic resonance imaging (MRI) medical equipment, biopharmaceutical manufacturing, and university, government and industrial research laboratories.

Gross Profit

	Three Months Ended March 31, 2005	2004	Percentage Points Change
Gross profit as percentage of net sales	38.7%	40.8%	(2.1)

Gross profit decreased mainly due to overhead costs increasing as a percentage of sales. In the first quarter of 2004, gross profit reflected a favorable impact of overhead absorption compared to the first quarter of 2005. This was primarily due to a sequential increase in sales and inventory during the three months ended March 31, 2004, related to a significant increase in demand. Inventory increased by $12.9 million from $82.0 million at December 31, 2003 to $94.9 million at March 31, 2004 and decreased by $2.0 million during the same period in 2005.

Research and Development (dollars in millions)

	Three Months Ended March 31, 2005	2004	% Change
Research and development expenses	$14.5	$14.3	1.5%

Research and development expense increased $0.2 million mainly due to increased compensation expense of $0.5 million as a result of higher staffing levels and salary increases partially offset by a decrease in recruiting agency fees of $0.2 million.

Our research and development is primarily focused on developing and improving our instruments, components, subsystems and process control solutions that measure, control, power and monitor critical parameters of semiconductor and other advanced manufacturing processes.

We have hundreds of products and our research and development efforts primarily consist of a large number of projects related to these products, none of which is in and of itself material to us. Current projects typically have a duration of 12 to 30 months depending upon whether the product is an enhancement of existing technology or a new product. Our current initiatives include projects to enhance the performance characteristics of older products, to develop new products and to integrate various technologies into subsystems. These projects support in large part the transition in the semiconductor industry to larger wafer sizes and smaller integrated circuit geometries, which require more advanced process control technology. Research and development expenses consist primarily of salaries and related expense for personnel engaged in research and development, fees paid to consultants, material costs for prototypes and other expenses related to the design, development, testing and enhancement of our products.

We believe that the continued investment in research and development and ongoing development of new products are essential to the expansion of our markets, and expect to continue to make significant investment in research and development activities. We are subject to risks if products are not developed in a timely manner, due to rapidly changing customer requirements and competitive threats from other companies and technologies. Our success primarily depends on our products being designed into new generations of equipment for the semiconductor industry. We develop products that are technologically advanced so that they are positioned to be chosen for use in each successive generation of semiconductor capital equipment. If our products are not chosen to be designed into our customers' products, our net sales may be reduced during the lifespan of those products.

Selling, General and Administrative (dollars in millions)

	Three Months Ended March 31,		
	2005	2004	% Change
Selling, general and administrative expenses................	$23.8	$20.2	18.3%

Selling, general and administrative expenses increased $3.7 million mainly due to a change of $1.0 million in foreign currency exchange expenses primarily related to Asia, $0.7 million in higher compensation expense as a result of higher staffing levels and salary increases, $0.7 million in higher consulting fees primarily for IT related services, $0.6 million in higher insurance costs and $0.5 million in increased facility costs.

Amortization of Acquired Intangible Assets (dollars in millions)

	Three Months Ended March 31,		
	2005	2004	% Change
Amortization of acquired intangible assets..................	$3.7	$3.7	0.0%

Amortization expense for the three months ended March 31, 2005 and 2004, respectively, represents amortization of identifiable intangible assets resulting from our completed acquisitions.

Restructuring Charges (dollars in millions)

	Three Months Ended March 31,		
	2005	2004	% Change
Restructuring charges......................................	$0.5	$0.4	3.9%

As a result of our various acquisitions from 2000 through 2002 and the downturn in the semiconductor capital equipment market which began in 2000, we had redundant activities and excess manufacturing capacity and office space. Therefore, in 2002 and continuing through the first quarter of 2004, we implemented restructuring activities to rationalize manufacturing operations and reduce operating expenses. As a result of these actions, we recorded restructuring, asset impairment charges and other charges of $2.7 million, $1.6 million and $0.4 million in 2002, 2003 and 2004, respectively. The charges consisted of $1.0 million of severance costs related to workforce reductions, $2.8 million related to consolidation of leased facilities, and asset impairment charges of $0.9 million primarily related to the impairment of an intangible asset from the discontinuance of certain product development activities. The fair value of the impaired intangible asset was determined using the expected present value of future cash flows. The workforce reductions were across all functional groups.

During the three months ended March 31, 2004, we completed our restructuring activities initiated in 2002, when we exited a leased facility and recorded a restructuring charge of $0.4 million. We implemented these restructuring activities to rationalize manufacturing operations and to reduce operating expenses.

During the three months ended March 31, 2005, we initiated a restructuring plan related to our Berlin, Germany location. This consolidation of activities included the reduction of 16 employees. The total restructuring charge related to this consolidation was $0.5 million, which consisted of $0.3 million related to the repayment of a government grant and $0.2 million in severance costs. We expect to incur approximately $0.1 million in additional severance charges through the end of 2005, when the plan should be completed.

The following table sets forth the activity in the restructuring accruals from December 31, 2004 to March 31, 2005:

	Workforce Reductions	Facility Consolidations	Other	Total
Balance as of December 31, 2004	$ 89	$ 1,532	$ -	$1,621
Restructuring provision in first quarter	203	-	251	454
Charges utilized in first quarter	(9)	(110)	-	(119)
Balance as of March 31, 2005	$283	$ 1,422	$ 251	$1,956

The remaining accruals for workforce reductions are expected to be paid by December 2005. The facilities consolidation charges will be paid over the respective lease terms, the latest of which ends in 2008.

Interest Income, Net (dollars in millions)

	Three Months Ended March 31,		
	2005	2004	% Change
Interest income, net	$1.1	$0.3	303.7%

Interest income increased $0.8 million mainly related to higher interest rates on higher average investment balances in 2005.

Provision for Income Taxes (dollars in millions)

	Three Months Ended March 31,	
	2005	2004
Provision for income taxes	$2.5	$3.2

As a result of incurring significant operating losses from 2001 through 2003, we had established a full valuation allowance against our net deferred tax assets. During the fourth quarter of 2004, after examining a number of factors, including historical results and near term earnings projections, we determined that it was more likely than not that we would realize all of our net deferred tax assets, except for those related to certain state tax credits, and reduced the valuation allowance accordingly. At March 31, 2005, we continued to maintain a valuation allowance for certain state tax credits for which it was more likely than not that they will not be realized.

Our effective tax rate for the quarter ending March 31, 2005 was 31%. The effective tax rate is less than the statutory tax rate primarily due to the profits of our international subsidiaries being taxed at rates lower than the U.S. statutory tax rate.

During the first quarter of 2004, the U.S. taxable income was offset by U.S. operating loss carryforwards and the tax provision was comprised of tax expense from foreign operations and state taxes.

In the normal course of business, the Company and our subsidiaries are examined by various tax authorities, including the Internal Revenue Service ("IRS"). The IRS is presently conducting an examination for the tax years 1999 through 2002 as part of its routine examinations of our income tax returns. The outcome of this examination cannot be determined at this time since fieldwork is still underway. We anticipate that the examination may be completed during fiscal year 2005. Unfavorable settlement of any particular issue would require the use of cash. Favorable resolution would result in a reduction to our effective tax rate in the quarter of resolution. Any additional impact on our liability for income taxes cannot presently be determined; however, we believe our accrued income tax liabilities are adequate.

LIQUIDITY AND CAPITAL RESOURCES

Cash, cash equivalents and short-term investments totaled $244.9 million at March 31, 2005 compared to $235.9 million at December 31, 2004. The primary source of funds for the first three months of fiscal 2005 was cash provided by operating activities of $9.9 million.

Net cash provided by operating activities of $9.9 million for the three months ended March 31, 2005, resulted mainly from net income of $5.5 million and non-cash charges of $6.7 million for depreciation and amortization, offset by an increase in net operating assets and liabilities of $2.4 million. The net increase in operating assets and liabilities is mainly caused by a $1.8 million increase in accounts receivable and a decrease of $2.6 million in accrued expenses and other current liabilities, primarily as a result of lower accrued compensation, offset by an increase in accounts payable of $1.8 million. Net cash provided by operating activities of $6.7 million for the three months ended March 31, 2004 resulted mainly from net income of $12.7 million, non-cash depreciation and amortization expenses of $6.9 million and an increase in operating liabilities of $23.4 million, partially offset by an increase in operating assets of $36.4 million. The increase in operating assets consisted mainly of an increase in accounts receivable of $21.6 million due to the higher shipments in the first quarter of 2004 as compared to the fourth quarter of 2003, and an increase in inventory of $12.3 million as a result of higher production volumes in the first quarter of 2004 and expected shipments in the second quarter of 2004. The increase in operating liabilities consisted primarily of an increase in accounts payable, accrued expenses and other current liabilities of $14.7 million resulting from increased production activity in the first quarter, as well as an $8.6 million increase in income tax payable consisting mainly of state and foreign taxes payable.

Net cash provided by investing activities of $4.5 million for the three months ended March 31, 2005 resulted primarily from the net maturities of $6.5 million of available for sale investments offset by the purchase of property, plant and equipment of $2.3 million primarily for investment in manufacturing equipment and for the consolidation of our IT infrastructure. Net cash used in investing activities of $24.2 million for the three months ended March 31, 2004 resulted mainly from the net purchases of $20.8 million of available for sale investments, the purchase of property, plant and equipment of $4.2 million for investments in manufacturing test equipment and for consolidation of our IT infrastructure.

Net cash used in financing activities of $1.6 million for the three months ended March 31, 2005 consisted primarily of $1.9 million in net payments for short-term borrowings. Net cash provided by financing activities of $35.8 million for the three months ended March 31, 2004 consisted primarily of $32.5 million in net proceeds received from our common stock offering, $1.9 million in proceeds from the exercise of stock options and purchases under the employee stock purchase plan, and net proceeds of $1.9 million from short-term borrowings, partially offset by $0.5 million of principal payments on long-term debt.

We believe that our working capital, together with the cash anticipated to be generated from operations, will be sufficient to satisfy our estimated working capital and planned capital expenditure requirements through at least the next 12 months.

To the extent permitted by Massachusetts law, our Restated Articles of Organization, as amended, require us to indemnify any of our current or former officers or directors or any person who has served or is serving in any capacity with respect to any of our employee benefit plans. Because no claim for indemnification has been pursued by any person covered by the relevant provisions of our Restated Articles of Organization, we believe that the estimated exposure for these indemnification obligations is currently minimal. Accordingly, we have no liabilities recorded for these requirements as of March 31, 2005.

We also enter into agreements in the ordinary course of business which include indemnification provisions. Pursuant to these agreements, we indemnify, hold harmless and agree to reimburse the indemnified party, generally our customers, for losses suffered or incurred by the indemnified party in connection with any patent, any other intellectual property infringement claim, and, in some instances, other claims, by any third party with respect to our products. The term of these indemnification obligations is generally perpetual after execution of the agreement. The maximum potential amount of future payments we could be required to make under these indemnification agreements is, in some instances, unlimited. We have never incurred costs to defend lawsuits or settle claims related to these indemnification obligations. As a result, we believe the estimated fair value of these obligations is minimal. Accordingly, we have no liabilities recorded for these obligations as of March 31, 2005.

When as part of an acquisition, we acquire all of the stock or all of the assets and liabilities of another company, we assume liability for certain events or occurrences that took place prior to the date of acquisition. The maximum potential amount of future payments we could be required to make for such obligations is undeterminable at this time. Other than obligations recorded as liabilities at the time of the acquisitions, historically we have not made significant payments for these indemnifications. Accordingly, no liabilities have been recorded for these obligations.

In conjunction with certain asset sales, we may provide routine indemnifications whose terms range in duration and often are not explicitly defined. Where appropriate, an obligation for such indemnifications is recorded as a liability. Because the amount of liability under these types of indemnifications are not explicitly stated, the overall maximum amount of the obligation under such indemnifications cannot be reasonably estimated. Other than obligations recorded as liabilities at the time of the asset sale, historically we have not made significant payments for these indemnifications.

OFF-BALANCE SHEET ARRANGEMENTS

We do not have any financial partnerships with unconsolidated entities, such as entities often referred to as structured finance, special purpose entities or variable interest entities which are often established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. Accordingly, we are not exposed to any financing, liquidity, market or credit risk that could arise if we had such relationships.

RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS

In March 2004, the Financial Accounting Standards Board ("FASB") issued EITF Issue No. 03-1, "The Meaning of Other-Than-Temporary Impairment and Its Application to Certain Investments" ("EITF 03-1"), which provides new guidance for assessing impairment losses on debt and equity investments. Additionally, EITF 03-1 includes new disclosure requirements for investments that are deemed to be temporarily impaired. In September 2004, the FASB delayed the accounting provisions of EITF 03-1; however, the disclosure requirements remain effective and have been adopted for our fiscal year ended December 31, 2004. We will evaluate the effect, if any, of EITF 03-1 when final guidance is released.

In November 2004, the FASB issued Statement of Financial Accounting Standards No. 151, "Inventory Costs" ("SFAS 151"). SFAS 151 amends ARB No. 43, Chapter 4, "Inventory Pricing." This statement clarifies the accounting for abnormal amounts of idle facility expense, freight, handling costs, and wasted material, and requires those items be recognized as current period charges regardless of whether they meet the criterion of "so abnormal." In addition, this statement requires that allocation of fixed production overheads to the costs of conversion be based on the normal capacity of the production facilities. SFAS 151 is effective for inventory costs incurred during fiscal years beginning after June 15, 2005. We are currently assessing the potential impact of SFAS 151.

In December 2004, the FASB issued Statement of Financial Accounting Standards No. 123R, "Share-Based Payment" ("SFAS 123R"). SFAS 123R replaces SFAS 123 and supersedes APB 25. SFAS 123R focuses primarily on the accounting for transactions in which an entity obtains employee services in share-based payment transactions. SFAS 123R requires companies to recognize in the statement of operations the cost of employee services received in exchange for awards of equity instruments based on the grant-date fair value of those awards (with limited exceptions). SFAS 123R was originally expected to be effective for us beginning in our third quarter of fiscal 2005. In April 2005, the effective date was amended by the Securities and Exchange Commission. As a result, SFAS 123R is now effective for us as of the first annual period that begins after June 15, 2005. Accordingly, we will adopt SFAS 123R in our first quarter of fiscal 2006. We expect to use the modified-prospective transition method and will not restate prior periods for the adoption of SFAS 123R. Although we are currently evaluating the provisions of SFAS 123R and its implications on our employee benefit plans, we believe that the adoption of this standard, based on the terms of the options outstanding at March 31, 2005, will have a material effect on our net income in fiscal 2006.

FACTORS THAT MAY AFFECT FUTURE RESULTS

OUR BUSINESS DEPENDS SUBSTANTIALLY ON CAPITAL SPENDING IN THE SEMICONDUCTOR INDUSTRY WHICH IS CHARACTERIZED BY PERIODIC FLUCTUATIONS THAT MAY CAUSE A REDUCTION IN DEMAND FOR OUR PRODUCTS.

We estimate that approximately 72% of our net sales for the quarter ended March 31, 2005 and 74%, 69%, and 70% of our net sales for the years ended December 31, 2004, 2003 and 2002, respectively, were to semiconductor capital equipment manufacturers and semiconductor device manufacturers, and we expect that sales to such customers will continue to account for a substantial majority of our sales. Our business depends upon the capital expenditures of semiconductor device manufacturers, which in turn depend upon the demand for semiconductors. Periodic reductions in demand for the products manufactured by semiconductor capital equipment manufacturers and semiconductor device manufacturers may adversely affect our business, financial condition and results of operations.

Historically, the semiconductor market has been highly cyclical and has experienced periods of overcapacity, resulting in significantly reduced demand for capital equipment. For example, in 2001 through the first half of 2003, we experienced a significant reduction in demand from OEM customers, and lower gross margins due to reduced absorption of manufacturing overhead. In addition, many semiconductor manufacturers have operations and customers in Asia, a region that in past years has experienced serious economic problems including currency devaluations, debt defaults, lack of liquidity and recessions. We cannot be certain that semiconductor downturns will not continue or recur. A decline in the level of orders as a result of any downturn or slowdown in the semiconductor capital equipment industry could have a material adverse effect on our business, financial condition and results of operations.

OUR QUARTERLY OPERATING RESULTS HAVE VARIED, AND ARE LIKELY TO CONTINUE TO VARY SIGNIFICANTLY. THIS MAY RESULT IN VOLATILITY IN THE MARKET PRICE OF OUR COMMON STOCK.

A substantial portion of our shipments occurs shortly after an order is received and therefore we operate with a low level of backlog. As a result, a decrease in demand for our products from one or more customers could occur with limited advance notice and could have a material adverse effect on our results of operations in any particular period. A significant percentage of our expenses are relatively fixed and based in part on expectations of future net sales. The inability to adjust spending quickly enough to compensate for any shortfall would magnify the adverse impact of a shortfall in net sales on our results of operations. Factors that could cause fluctuations in our net sales include:

- the timing of the receipt of orders from major customers;

- shipment delays;

- disruption in sources of supply;

- seasonal variations of capital spending by customers;

- production capacity constraints; and

- specific features requested by customers.

In addition, our quarterly operating results may be adversely affected due to charges incurred in a particular quarter, for example, relating to inventory obsolescence, bad debt or asset impairments.

As a result of the factors discussed above, it is likely that we may in the future experience quarterly or annual fluctuations and that, in one or more future quarters, our operating results may fall below the expectations of public market analysts or investors. In any such event, the price of our common stock could decline significantly.

THE LOSS OF NET SALES TO ANY ONE OF OUR MAJOR CUSTOMERS WOULD LIKELY HAVE A MATERIAL ADVERSE EFFECT ON US.

Our top ten customers accounted for approximately 49%, 42%, and 49% of our net sales for the years ended December 31, 2004, 2003 and 2002, respectively. The loss of a major customer or any reduction in orders by these customers, including reductions due to market or competitive conditions, would likely have a material adverse effect on our business, financial condition and results of operations. During the years ended December 31, 2004, 2003 and 2002, one customer, Applied Materials, accounted for approximately 20%, 18%, and 23%, respectively, of our net sales. None of our significant customers, including Applied Materials, has entered into an agreement requiring it to purchase any minimum quantity of our products. The demand for our products from our semiconductor capital equipment customers depends in part on orders received by them from their semiconductor device manufacturer customers.

Attempts to lessen the adverse effect of any loss or reduction of net sales through the rapid addition of new customers could be difficult because prospective customers typically require lengthy qualification periods prior to placing volume orders with a new supplier. Our future success will continue to depend upon:

- our ability to maintain relationships with existing key customers;

- our ability to attract new customers;

- our ability to introduce new products in a timely manner for existing and new customers; and

- the success of our customers in creating demand for their capital equipment products which incorporate our products.

AS PART OF OUR BUSINESS STRATEGY, WE HAVE ENTERED INTO AND MAY ENTER INTO OR SEEK TO ENTER INTO BUSINESS COMBINATIONS AND ACQUISITIONS THAT MAY BE DIFFICULT AND COSTLY TO INTEGRATE, DISRUPT OUR BUSINESS, DILUTE STOCKHOLDER VALUE OR DIVERT MANAGEMENT ATTENTION.

We made several acquisitions in the years 2000 through 2002. As a part of our business strategy, we may enter into additional business combinations and acquisitions. Acquisitions are typically accompanied by a number of risks, including the difficulty of integrating the operations and personnel of the acquired companies, the potential disruption of our ongoing business and distraction of management, expenses related to the acquisition and potential unknown liabilities associated with acquired businesses. If we are not successful in completing acquisitions that we may pursue in the future, we may be required to reevaluate our growth strategy, and we may incur substantial expenses and devote significant management time and resources in seeking to complete proposed acquisitions that will not generate benefits for us.

In addition, with future acquisitions, we could use substantial portions of our available cash as all or a portion of the purchase price. We could also issue additional securities as consideration for these acquisitions, which could cause significant stockholder dilution. Our prior acquisitions and any future acquisitions may not ultimately help us achieve our strategic goals and may pose other risks to us.

As a result of our previous acquisitions, we have added several different decentralized operating and accounting systems, resulting in a complex reporting environment. We expect that we will need to continue to modify our accounting policies, internal controls, procedures and compliance programs to provide consistency across all our operations. In order to increase efficiency and operating effectiveness and improve corporate visibility into our decentralized operations, we are currently in the planning and design phase of implementing a new worldwide Enterprise Resource Planning ("ERP") system. We expect to implement the ERP system by converting our operations in phases over the next few years, beginning in the second half of 2005. Although we have a detailed plan to accomplish the ERP implementation, we may risk potential disruption of our operations during the conversion periods, the implementation could require significantly more management time than currently estimated and we could incur significantly higher implementation costs than currently estimated.

AN INABILITY TO CONVINCE SEMICONDUCTOR DEVICE MANUFACTURERS TO SPECIFY THE USE OF OUR PRODUCTS TO OUR CUSTOMERS, THAT ARE SEMICONDUCTOR CAPITAL EQUIPMENT MANUFACTURERS, WOULD WEAKEN OUR COMPETITIVE POSITION.

The markets for our products are highly competitive. Our competitive success often depends upon factors outside of our control. For example, in some cases, particularly with respect to mass flow controllers, semiconductor device manufacturers may direct semiconductor capital equipment manufacturers to use a specified supplier's product in their equipment. Accordingly, for such products, our success will depend in part on our ability to have semiconductor device manufacturers specify that our products be used at their semiconductor fabrication facilities. In addition, we may encounter difficulties in changing established relationships of competitors that already have a large installed base of products within such semiconductor fabrication facilities.

IF OUR PRODUCTS ARE NOT DESIGNED INTO SUCCESSIVE GENERATIONS OF OUR CUSTOMERS' PRODUCTS, WE WILL LOSE SIGNIFICANT NET SALES DURING THE LIFESPAN OF THOSE PRODUCTS.

New products designed by semiconductor capital equipment manufacturers typically have a lifespan of five to ten years. Our success depends on our products being designed into new generations of equipment for the semiconductor industry. We must develop products that are technologically advanced so that they are positioned to be chosen for use in each successive generation of semiconductor capital equipment. If customers do not choose our products, our net sales may be reduced during the lifespan of our customers' products. In addition, we must make a significant capital investment to develop products for our customers well before our products are introduced and before we can be sure that we will recover our capital investment through sales to the customers in significant volume. We are thus also at risk during the development phase that our products may fail to meet our customers' technical or cost requirements and may be replaced by a competitive product or alternative technology solution. If that happens, we may be unable to recover our development costs.

THE SEMICONDUCTOR INDUSTRY IS SUBJECT TO RAPID DEMAND SHIFTS WHICH ARE DIFFICULT TO PREDICT. AS A RESULT, OUR INABILITY TO EXPAND OUR MANUFACTURING CAPACITY IN RESPONSE TO THESE RAPID SHIFTS MAY CAUSE A REDUCTION IN OUR MARKET SHARE.

Our ability to increase sales of certain products depends in part upon our ability to expand our manufacturing capacity for such products in a timely manner. If we are unable to expand our manufacturing capacity on a timely basis or to manage such expansion effectively, our customers could implement our competitors' products and, as a result, our market share could be reduced. Because the semiconductor industry is subject to rapid demand shifts which are difficult to foresee, we may not be able to increase capacity quickly enough to respond to a rapid increase in demand.

Additionally, capacity expansion could increase our fixed operating expenses and if sales levels do not increase to offset the additional expense levels associated with any such expansion, our business, financial condition and results of operations could be materially adversely affected.

WE OPERATE IN A HIGHLY COMPETITIVE INDUSTRY.

The market for our products is highly competitive. Principal competitive factors include:

- historical customer relationships;
- product quality, performance and price;
- breadth of product line;
- manufacturing capabilities; and
- customer service and support.

Although we believe that we compete favorably with respect to these factors, there can be no assurance that we will continue to do so. We encounter substantial competition in most of our product lines. Certain of our competitors may have greater financial and other resources than we have. In some cases, competitors are smaller than we are, but well established in specific product niches. We may encounter difficulties in changing established relationships of competitors with a large installed base of products at such customers' fabrication facilities. In addition, our competitors can be expected to continue to improve the design and performance of their products. There can be no assurance that competitors will not develop products that offer price or performance features superior to those of our products.

SALES TO FOREIGN MARKETS CONSTITUTE A SUBSTANTIAL PORTION OF OUR NET SALES; THEREFORE, OUR NET SALES AND RESULTS OF OPERATIONS COULD BE ADVERSELY AFFECTED BY DOWNTURNS IN ECONOMIC CONDITIONS IN COUNTRIES OUTSIDE OF THE UNITED STATES.

International sales include sales by our foreign subsidiaries, but exclude direct export sales. International sales accounted for approximately 34%, 41%, and 36% of net sales for the years ended December 31, 2004, 2003 and 2002, respectively, a significant portion of which were sales to Japan.

We anticipate that international sales will continue to account for a significant portion of our net sales. In addition, certain of our key domestic customers derive a significant portion of their revenues from sales in international markets. Therefore, our sales and results of operations could be adversely affected by economic slowdowns and other risks associated with international sales.

RISKS RELATING TO OUR INTERNATIONAL OPERATIONS COULD ADVERSELY AFFECT OUR OPERATING RESULTS.

We have substantial international sales, service and manufacturing operations in Europe and Asia, which expose us to foreign operational and political risks that may harm our business. Our international operations are subject to inherent risks, which may adversely affect us, including:

- political and economic instability in countries where we have sales, service and manufacturing operations;
- fluctuations in the value of currencies and high levels of inflation, particularly in Asia and Europe;
- changes in labor conditions and difficulties in staffing and managing foreign operations, including, but not limited to, labor unions;
- greater difficulty in collecting accounts receivable and longer payment cycles;

- burdens and costs of compliance with a variety of foreign laws;

- increases in duties and taxation;

- imposition of restrictions on currency conversion or the transfer of funds;

- changes in export duties and limitations on imports or exports;

- expropriation of private enterprises; and

- unexpected changes in foreign regulations.

If any of these risks materialize, our operating results may be adversely affected.

UNFAVORABLE CURRENCY EXCHANGE RATE FLUCTUATIONS MAY LEAD TO LOWER OPERATING MARGINS, OR MAY CAUSE US TO RAISE PRICES WHICH COULD RESULT IN REDUCED SALES.

Currency exchange rate fluctuations could have an adverse effect on our net sales and results of operations and we could experience losses with respect to our hedging activities. Unfavorable currency fluctuations could require us to increase prices to foreign customers which could result in lower net sales by us to such customers. Alternatively, if we do not adjust the prices for our products in response to unfavorable currency fluctuations, our results of operations could be adversely affected. In addition, most sales made by our foreign subsidiaries are denominated in the currency of the country in which these products are sold and the currency they receive in payment for such sales could be less valuable at the time of receipt as a result of exchange rate fluctuations. We enter into forward exchange contracts and local currency purchased options to reduce currency exposure arising from intercompany sales of inventory. However, we cannot be certain that our efforts will be adequate to protect us against significant currency fluctuations or that such efforts will not expose us to additional exchange rate risks.

KEY PERSONNEL MAY BE DIFFICULT TO ATTRACT AND RETAIN.

Our success depends to a large extent upon the efforts and abilities of a number of key employees and officers, particularly those with expertise in the semiconductor manufacturing and similar industrial manufacturing industries. The loss of key employees or officers could have a material adverse effect on our business, financial condition and results of operations. We believe that our future success will depend in part on our ability to attract and retain highly skilled technical, financial, managerial and marketing personnel. We cannot be certain that we will be successful in attracting and retaining such personnel.

OUR PROPRIETARY TECHNOLOGY IS IMPORTANT TO THE CONTINUED SUCCESS OF OUR BUSINESS. OUR FAILURE TO PROTECT THIS PROPRIETARY TECHNOLOGY MAY SIGNIFICANTLY IMPAIR OUR COMPETITIVE POSITION.

As of December 31, 2004, we owned 221 U.S. patents, 156 foreign patents and had 91 pending U.S. patent applications. Although we seek to protect our intellectual property rights through patents, copyrights, trade secrets and other measures, we cannot be certain that:

- we will be able to protect our technology adequately;

- competitors will not be able to develop similar technology independently;

- any of our pending patent applications will be issued;

- intellectual property laws will protect our intellectual property rights; or

- third parties will not assert that our products infringe patent, copyright or trade secrets of such parties.

PROTECTION OF OUR INTELLECTUAL PROPERTY RIGHTS MAY RESULT IN COSTLY LITIGATION.

Litigation may be necessary in order to enforce our patents, copyrights or other intellectual property rights, to protect our trade secrets, to determine the validity and scope of the proprietary rights of others or to defend against claims of infringement. We have been in the past, and currently are, involved in lawsuits enforcing and defending our intellectual property rights and may be involved in such litigation in the future. Such litigation could result in substantial costs and diversion of resources and could have a material adverse effect on our business, financial condition and results of operations.

We may need to expend significant time and expense to protect our intellectual property regardless of the validity or successful outcome of such intellectual property claims. If we lose any litigation, we may be required to seek licenses from others or change, stop manufacturing or stop selling some of our products.

THE MARKET PRICE OF OUR COMMON STOCK HAS FLUCTUATED AND MAY CONTINUE TO FLUCTUATE FOR REASONS OVER WHICH WE HAVE NO CONTROL.

The stock market has from time to time experienced, and is likely to continue to experience, extreme price and volume fluctuations. Prices of securities of technology companies have been especially volatile and have often fluctuated for reasons that are unrelated to the operating performance of the companies. The market price of shares of our common stock has fluctuated greatly since our initial public offering and could continue to fluctuate due to a variety of factors. In the past, companies that have experienced volatility in the market price of their stock have been the objects of securities class action litigation. If we were the object of securities class action litigation, it could result in substantial costs and a diversion of our management's attention and resources.

OUR DEPENDENCE ON SOLE, LIMITED SOURCE SUPPLIERS, AND INTERNATIONAL SUPPLIERS, COULD AFFECT OUR ABILITY TO MANUFACTURE PRODUCTS AND SYSTEMS.

We rely on sole, limited source suppliers, and international suppliers, for a few of our components and subassemblies that are critical to the manufacturing of our products. This reliance involves several risks, including the following:

- the potential inability to obtain an adequate supply of required components;

- reduced control over pricing and timing of delivery of components; and

- the potential inability of our suppliers to develop technologically advanced products to support our growth and development of new systems.

We believe that in time we could obtain and qualify alternative sources for most sole, limited source and international supplier parts. Seeking alternative sources of the parts could require us to redesign our systems, resulting in increased costs and likely shipping delays. We may be unable to redesign our systems, which could result in further costs and shipping delays. These increased costs would decrease our profit margins if we could not pass the costs to our customers. Further, shipping delays could damage our relationships with current and potential customers and have a material adverse effect on our business and results of operations.

WE ARE SUBJECT TO GOVERNMENTAL REGULATIONS. IF WE FAIL TO COMPLY WITH THESE REGULATIONS, OUR BUSINESS COULD BE HARMED.

We are subject to federal, state, local and foreign regulations, including environmental regulations and regulations relating to the design and operation of our products. We must ensure that the affected products meet a variety of standards, many of which vary across the countries in which our systems are used. For example, the European Union has published directives specifically relating to power supplies. In addition, the European Union has issued directives relating to future regulation of recycling and hazardous substances, which may be applicable to our products, or which some customers may voluntarily elect to adhere to. We must comply with any applicable directive in order to ship affected products into countries that are members of the European Union. We believe we are in compliance with current applicable regulations, directives and standards and have obtained all necessary permits, approvals, and authorizations to conduct our business. However, compliance with future regulations, directives and standards could require us to modify or redesign certain systems, make capital expenditures or incur substantial costs. If we do not comply with current or future regulations, directives and standards:

- we could be subject to fines;
- our production could be suspended; or
- we could be prohibited from offering particular systems in specified markets.

CERTAIN STOCKHOLDERS HAVE A SUBSTANTIAL INTEREST IN US AND MAY BE ABLE TO EXERT SUBSTANTIAL INFLUENCE OVER OUR ACTIONS.

As of January 31, 2005, John R. Bertucci, our Chairman and Chief Executive Officer and certain members of his family, in the aggregate, beneficially owned approximately 18% of our outstanding common stock. As a result, these stockholders, acting together, are able to exert substantial influence over our actions. Pursuant to the acquisition of the ENI Business of Emerson Electric Co. ("Emerson"), we issued approximately 12,000,000 shares of common stock to Emerson and its wholly owned subsidiary, Astec America, Inc. Emerson owned approximately 19% of our outstanding common stock as of January 31, 2005, and James G. Berges, the President and a director of Emerson, is a member of our board of directors. Accordingly, Emerson is able to exert substantial influence over our actions.

SOME PROVISIONS OF OUR RESTATED ARTICLES OF ORGANIZATION, AS AMENDED, OUR AMENDED AND RESTATED BY-LAWS AND MASSACHUSETTS LAW COULD DISCOURAGE POTENTIAL ACQUISITION PROPOSALS AND COULD DELAY OR PREVENT A CHANGE IN CONTROL OF US.

Anti-takeover provisions could diminish the opportunities for stockholders to participate in tender offers, including tender offers at a price above the then current market price of the common stock. Such provisions may also inhibit increases in the market price of the common stock that could result from takeover attempts. For example, while we have no present plans to issue any preferred stock, our board of directors, without further stockholder approval, may issue preferred stock that could have the effect of delaying, deterring or preventing a change in control of us. The issuance of preferred stock could adversely affect the voting power of the holders of our common stock, including the loss of voting control to others. In addition, our amended and restated by-laws provide for a classified board of directors consisting of three classes. The classified board could also have the effect of delaying, deterring or preventing a change in control of us.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Information concerning market risk is contained in the Management's Discussion and Analysis of Financial Condition and Results of Operations contained in our Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 16, 2005. There were no material changes in our exposure to market risk from December 31, 2004.

ITEM 4. CONTROLS AND PROCEDURES.

a) Effectiveness of disclosure controls and procedures.

MKS' management, with the participation of our chief executive officer and chief financial officer, evaluated the effectiveness of our disclosure controls and procedures as of March 31, 2005. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended ("the Exchange Act"), means controls and other procedures of a company that are designed to ensure that information required to be disclosed by the company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of March 31, 2005, our chief executive officer and chief financial officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

b) Changes in internal control over financial reporting.

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the quarter ended March 31, 2005 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. PERIOD OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS.

On April 3, 2003, Advanced Energy Industries, Inc. ("Advanced Energy") filed suit against us in federal district court in Colorado ("Colorado Action"), seeking a declaratory judgment that Advanced Energy's Xstream product does not infringe three patents held by our subsidiary, Applied Science and Technology, Inc. ("ASTeX"). On May 14, 2003, we brought suit in federal district court in Delaware against Advanced Energy for infringement of five ASTeX patents (the "Delaware Action"), including the three patents at issue in the Colorado Action. We sought injunctive relief and damages for Advanced Energy's infringement. On December 24, 2003, the Colorado court granted our motion to transfer Advanced Energy's Colorado Action to Delaware. In connection with the jury trial, the parties agreed to present the jury with representative claims from three of the five ASTeX patents. On July 23, 2004, the jury found that Advanced Energy infringed all three patents. On March 31 and April 5, 2005, the Court issued orders concerning a number of pre- and post-trial motions. Several other post-trial motions remain pending. The Court referred several of the pending motions to a special master for decision, and the Court scheduled a hearing for May 26, 2005 to address scheduling issues, including the trial of any remaining issues in the Delaware Action. We expect that the second phase of trial will address our claims of damages and willful infringement against Advanced Energy and will also address certain of Advanced Energy's affirmative defenses that remain in the Delaware Action. The parties are currently briefing issues that were referred to the special master for decision.

On November 3, 1999, On-Line Technologies, Inc. ("On-Line"), which was acquired by us in 2001, brought suit in federal district court in Connecticut against Perkin-Elmer, Inc. and certain other defendants for infringement of On-Line's patent related to its FTIR spectrometer product and related claims. The suit sought injunctive relief and damages for infringement. Perkin-Elmer, Inc. filed a counterclaim seeking invalidity of the patent, costs and attorneys' fees. In June 2002, the defendants filed a motion for summary judgment. In April 2003, the court granted the motion and dismissed the case. We appealed this decision to the federal circuit court of appeals. On October 13, 2004, the federal circuit court of appeals reversed the lower court's dismissal of certain claims in the case. Accordingly, the case has been remanded to the United States District Court in Connecticut for further proceedings on the merits of the remaining claims. On March 11, 2005, Perkin-Elmer, Inc. submitted to the court a stipulation agreeing that they have infringed a specified claim of On-Line's patent and filed a motion for summary judgment that such patent claim is invalid. On April 6, 2005, On-Line filed a reply to the summary judgment motion. The parties are awaiting the court's response to the motion.

We are subject to other legal proceedings and claims, which have arisen in the ordinary course of business.

In the opinion of management, the ultimate disposition of these matters will not have a material adverse effect on our results of operations, financial condition or cash flows.

ITEM 6. EXHIBITS.

Exhibit No.	Exhibit Description
+10.1(1)	Global Supply Agreement between MKS Instruments, Inc. and Applied Materials, Inc., dated April 21, 2005
10.2*(1)	Employment Agreement dated April 25, 2005, between MKS Instruments, Inc. and Gerald G. Colella
31.1	Certification of Principal Executive Officer pursuant to Rule 13a-14(a)/Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended
31.2	Certification of Principal Financial Officer pursuant to Rule 13a-14(a)/Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended
32.1	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

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(1) Incorporated by reference to one of the Registrant's Current Reports on Form 8-K filed with the Securities and Exchange Commission on April 27, 2005.

+ Confidential treatment requested as to certain portions which portions have been separately filed with the Securities and Exchange Commission.

* Management contract or compensatory plan arrangement.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

MKS INSTRUMENTS, INC.

May 5, 2005

By: /s/ Ronald C. Weigner

Ronald C. Weigner
Vice President and Chief
Financial Officer
(Principal Financial Officer)

EXHIBIT 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO RULE 13a-14(a)/RULE 15d-14(a) OF THE
SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, John R. Bertucci, certify that:

1. I have reviewed this report on Form 10-Q of MKS Instruments, 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 15(d)-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 changes 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 controls over financial reporting, to the registrant's auditors and the audit committee of 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 and financial reporting.

Dated: May 5, 2005

/s/ John R. Bertucci

John R. Bertucci
Chairman and Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO RULE 13a-14(a)/RULE 15d-14(a) OF THE
SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, Ronald C. Weigner, certify that:

1. I have reviewed this report on Form 10-Q of MKS Instruments, 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 15(d)-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 annual 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 annual 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 changes 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 controls over financial reporting, to the registrant's auditors and the audit committee of 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 and financial reporting.

Dated: May 5, 2005

/s/ Ronald C. Weigner

Ronald C. Weigner
Vice President and Chief Financial Officer
(Principal Financial Officer)

EXHIBIT 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND 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 Quarterly Report on Form 10-Q of MKS Instruments, Inc. (the "Company") for the period ended March 31, 2005 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, John R. Bertucci, Chairman and Chief Executive Officer of the Company, and Ronald C. Weigner, Vice President and Chief Financial Officer, each hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) based on my knowledge, the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

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

Dated: May 5, 2005

/s/ John R. Bertucci

John R. Bertucci
Chairman and Chief Executive Officer

Dated: May 5, 2005

/s/ Ronald C. Weigner

Ronald C. Weigner
Vice President and Chief Financial Officer