

SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549

FORM 10-Q

(MARK ONE)

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

For the quarterly period ended September 30, 2002

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

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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.)
Six Shattuck Road, Andover, Massachusetts	01810
-----	-----
(Address of principal executive offices)	(Zip Code)
Registrant's telephone number, including area code	(978) 975-2350
	-----

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 \_\_\_.

Number of shares outstanding of the issuer's common stock as of October 31, 2002: 51,242,766

MKS INSTRUMENTS, INC.  
FORM 10-Q  
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## PART I. FINANCIAL INFORMATION

## ITEM 1. FINANCIAL STATEMENTS

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

	SEPTEMBER 30, 2002	DECEMBER 31, 2001
	-----	-----
	(Unaudited)	
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents .....	\$ 75,595	\$ 120,869
Short-term investments .....	37,654	16,625
Trade accounts receivable, net .....	52,218	35,778
Inventories .....	82,864	56,954
Deferred tax asset .....	18,406	16,426
Other current assets .....	13,196	16,353
	-----	-----
Total current assets .....	279,933	263,005
Property, plant and equipment, net .....	83,212	69,634
Goodwill .....	258,525	31,113
Acquired intangible assets, net .....	71,498	21,172
Long-term investments .....	15,658	11,029
Other assets .....	8,819	15,236
	-----	-----
Total assets .....	\$ 717,645	\$ 411,189
	=====	=====
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Short-term borrowings .....	\$ 11,684	\$ 9,238
Current portion of long-term debt .....	4,308	5,074
Current portion of capital lease obligations .....	360	503
Accounts payable .....	20,072	9,668
Accrued compensation .....	8,720	6,116
Other accrued expenses .....	24,365	15,551
	-----	-----
Total current liabilities .....	69,509	46,150
Long-term debt .....	12,435	10,916
Long-term portion of capital lease obligations .....	136	341
Deferred tax liability .....	9,862	---
Other liabilities .....	1,707	911
Commitments and contingencies (Note 11)		
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; 51,242,766 and 37,998,699 issued and outstanding at September 30, 2002 and December 31, 2001, respectively .....	113	113
Additional paid-in capital .....	575,173	285,252
Retained earnings .....	47,854	68,160
Accumulated other comprehensive income (loss) .....	856	(654)
	-----	-----
Total stockholders' equity .....	623,996	352,871
	-----	-----
Total liabilities and stockholders' equity .....	\$ 717,645	\$ 411,189
	=====	=====

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

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2002	2001	2002	2001
	----	----	----	----
Net sales .....	\$ 92,216	\$ 53,201	\$ 237,215	\$ 236,745
Cost of sales .....	60,391	37,105	156,455	151,636
	-----	-----	-----	-----
Gross profit .....	31,825	16,096	80,760	85,109
Research and development .....	12,650	9,303	33,835	29,907
Selling, general and administrative .....	20,455	17,474	58,234	54,107
Amortization of goodwill and acquired intangible assets...	3,778	3,020	10,120	8,005
Goodwill impairment charge .....	---	---	---	3,720
Merger expenses .....	---	---	---	7,708
Restructuring and asset impairment charges .....	2,408	---	2,408	---
Purchase of in-process research and development .....	---	---	8,390	2,340
	-----	-----	-----	-----
Loss from operations .....	(7,466)	(13,701)	(32,227)	(20,678)
Interest expense .....	281	424	862	1,197
Interest income .....	714	1,208	2,077	4,382
Income from litigation settlement .....	4,200	---	4,200	---
Other expense .....	4,121	1,246	4,121	1,246
	-----	-----	-----	-----
Loss before income taxes .....	(6,954)	(14,163)	(30,933)	(18,739)
Benefit for income taxes .....	(3,129)	(5,092)	(10,627)	(3,381)
	-----	-----	-----	-----
Net loss .....	\$ (3,825)	\$ (9,071)	\$ (20,306)	\$ (15,358)
	=====	=====	=====	=====
Net loss per share:				
Basic and diluted .....	\$ (0.07)	\$ (0.24)	\$ (0.41)	\$ (0.41)
	=====	=====	=====	=====
Weighted average common shares outstanding:				
Basic and diluted .....	51,262	37,801	49,567	37,364
	=====	=====	=====	=====

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

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

	Nine Months Ended September 30,	
	2002	2001
	----	----
Cash flows from operating activities:		
Net loss .....	\$ (20,306)	\$ (15,358)
Adjustments to reconcile net loss to net cash provided by operating activities:		
Depreciation and amortization .....	21,165	16,681
Goodwill impairment charge .....	---	3,720
Purchase of in-process research and development .....	8,390	2,340
Loss on disposal of assets .....	170	1,246
Asset impairment charges .....	4,988	---
Deferred taxes .....	(9,319)	---
Other .....	551	21
Changes in operating assets and liabilities net of effects of businesses acquired:		
Trade accounts receivable .....	(11,065)	52,921
Inventories .....	(3,546)	3,261
Other current assets .....	6,041	(9,359)
Accrued expenses and other current liabilities .....	(2,377)	(18,673)
Accounts payable .....	3,722	(13,644)
	-----	-----
Net cash provided by (used in) operating activities .....	(1,586)	23,156
	-----	-----
Cash flows from investing activities:		
Maturities and sales of short-term and long-term investments .....	53,852	16,605
Purchases of short-term and long-term investments .....	(79,881)	(19,668)
Purchases of property, plant and equipment .....	(5,833)	(12,564)
Increase in other assets .....	(623)	(3,754)
Proceeds from disposal of assets .....	275	4,514
Purchases of businesses, net of cash acquired .....	(16,298)	(7,842)
	-----	-----
Net cash used in investing activities .....	(48,508)	(22,709)
	-----	-----
Cash flows from financing activities:		
Proceeds from short-term borrowings .....	10,282	23,262
Payments on short-term borrowings .....	(9,395)	(27,346)
Principal payments on long-term debt .....	(4,863)	(2,073)
Proceeds from long-term debt .....	---	833
Proceeds from exercise of stock options .....	7,544	3,595
Principal payments under capital lease obligations .....	(327)	(599)
	-----	-----
Net cash provided by (used in) financing activities .....	3,241	(2,328)
	-----	-----
Effect of exchange rate changes on cash and cash equivalents .....	1,579	375
	-----	-----
Decrease in cash and cash equivalents .....	(45,274)	(1,506)
Cash and cash equivalents at beginning of period .....	120,869	123,082
Effect of excluded results of ASTeX (Note 1) .....	---	(3,142)
	-----	-----
Cash and cash equivalents at end of period .....	\$ 75,595	\$ 118,434
	=====	=====
Supplemental disclosure of cash flow information:		
Cash paid during the period for:		
Interest .....	\$ 879	\$ 855
	=====	=====
Income taxes .....	\$ 2,150	\$ 13,004
	=====	=====
Noncash transactions during the period:		
Stock issued for acquisitions .....	\$ 282,341	\$ 12,110
	=====	=====
Note receivable and warrants from disposal of assets .....	\$ ---	\$ 4,121
	=====	=====

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

MKS INSTRUMENTS, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
(Tables in thousands, except per share data)

1) BASIS OF PRESENTATION

The interim financial data as of September 30, 2002 and for the three and nine months ended September 30, 2002 and 2001 is unaudited; however, in the opinion of MKS Instruments, Inc., 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 terms "MKS" and the "Company" refer to MKS Instruments, Inc. and its subsidiaries. The unaudited financial statements presented herein have been prepared in accordance with the instructions to Form 10-Q and do not include all the information and note disclosures required by generally accepted accounting principles. The financial statements should be read in conjunction with the December 31, 2001 audited financial statements and notes thereto included in the MKS Annual Report on Form 10-K filed with the Securities and Exchange Commission on April 1, 2002.

On January 26, 2001, MKS completed its acquisition of Applied Science and Technology, Inc. ("ASTeX") in a transaction accounted for under the pooling of interests method of accounting. Under the terms of the agreement, each outstanding share of ASTeX common stock was exchanged for 0.7669 newly issued shares of common stock of MKS, resulting in the issuance of approximately 11.2 million shares of common stock of MKS, representing approximately 30% of its then outstanding shares.

As a result of conforming dissimilar fiscal year-ends, ASTeX's results of operations for the six-month period ended December 31, 2000 are excluded from the consolidated financial statements. As a result, the statement of cash flows for the nine months ended September 30, 2001 reflects an adjustment of \$3,142,000, which represents the ASTeX cash flow during the excluded period.

2) USE OF ESTIMATES

The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these 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 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, in-process research and development, merger expenses, intangible assets and goodwill, inventories, deferred tax assets, 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.

3) RECENT ACCOUNTING PRONOUNCEMENTS

In August 2001, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards No. 143, "Accounting for Obligations Associated with the Retirement of Long-Lived Assets" ("SFAS 143"). The objective of SFAS 143 is to provide accounting guidance for legal obligations associated with the retirement of long-lived assets. The retirement obligations included within the scope of this pronouncement are those that an entity cannot avoid as a result of either the acquisition, construction or normal operation of a long-lived asset. Components of larger systems also fall under this pronouncement, as well as tangible long-lived assets with indeterminable lives. The provisions of SFAS 143 are effective for financial statements issued for fiscal years beginning after June 15, 2002. The Company is currently evaluating the expected impact of the adoption of SFAS 143 on the Company's financial condition, cash flows and results of operations. The Company will adopt the standard in the first quarter of fiscal 2003.

MKS INSTRUMENTS, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (Continued)  
(Tables in thousands, except per share data)

In October 2001, the FASB issued Statement of Financial Accounting Standards No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets" ("SFAS 144"). SFAS 144 addresses significant issues relating to the implementation of SFAS No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of," and develops a single accounting method under which long-lived assets that are to be disposed of by sale are measured at the lower of book value or fair value less cost to sell. Additionally, SFAS 144 expands the scope of discontinued operations to include all components of an entity with operations that (1) can be distinguished from the rest of the entity and (2) will be eliminated from the ongoing operations of the entity in a disposal transaction. SFAS 144 is effective for financial statements issued for fiscal years beginning after December 15, 2001. Effective January 1, 2002, the Company adopted SFAS 144. The adoption of SFAS 144 did not have a material impact on the Company's financial position and results of operations.

In June 2002, Statement of Financial Accounting Standards No. 146, "Accounting for Costs Associated with Exit or Disposal Activities" ("SFAS 146") was issued. This Statement addresses financial accounting and reporting for costs associated with exit or disposal activities and nullifies Emerging Issues Task Force (EITF) Issue No. 94-3, "Liability Recognition for Certain Employee Termination Benefits and Other Costs to Exit an Activity (including Certain Costs Incurred in a Restructuring)." The provisions of SFAS 146 are effective for exit or disposal activities that are initiated after December 31, 2002, with early application encouraged. The Company is currently reviewing the provisions of SFAS 146 to determine the standard's impact upon adoption. The Company will adopt the standard in the first quarter of fiscal 2003.

4) GOODWILL AND INTANGIBLE ASSETS

In July 2001, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 142, "Goodwill and Other Intangible Assets" ("SFAS 142"). SFAS 142 requires, among other things, the discontinuance of goodwill amortization. In addition, the standard includes provisions upon adoption for the reclassification of certain existing recognized intangibles such as goodwill, reassessment of the useful lives of existing recognized intangible assets, and reclassification of certain intangibles out of previously reported goodwill. The Company adopted SFAS 142 on January 1, 2002.

INTANGIBLE ASSETS

In accordance with SFAS 142, the Company reassessed the classification of its goodwill and intangible assets. This analysis, which was completed during the quarter ended March 31, 2002, resulted in the reclassification of workforce related intangible assets of \$2,023,000 to goodwill. Also, in accordance with this statement, the Company reassessed the useful lives of its amortizable intangible assets and determined that the lives were appropriate.

Acquired amortizable intangible assets consisted of the following as of September 30, 2002:

	GROSS CARRYING AMOUNT	ACCUMULATED AMORTIZATION	NET CARRYING AMOUNT	WEIGHTED AVERAGE USEFUL LIFE
	-----	-----	-----	-----
Completed technology.....	\$69,394	\$(12,547)	\$ 56,847	6 years
Customer relationships.....	6,640	(1,513)	5,127	7 years
Patents, trademarks, tradenames and other.....	12,394	(2,870)	9,524	7 years
	-----	-----	-----	
	\$88,428	\$(16,930)	\$ 71,498	6 years
	=====	=====	=====	

MKS INSTRUMENTS, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (Continued)  
(Tables in thousands, except per share data)

Amortizable intangible assets consisted of the following as of December 31, 2001:

	GROSS CARRYING AMOUNT	ACCUMULATED AMORTIZATION	NET CARRYING AMOUNT
	-----	-----	-----
Completed technology.....	\$16,564	\$(4,402)	\$12,162
Customer relationships.....	4,040	(851)	3,189
Patents, trademarks, tradenames and other.....	8,132	(2,311)	5,821
	-----	-----	-----
	\$28,736	\$(7,564)	\$21,172
	=====	=====	=====

Aggregate amortization expense related to acquired intangibles for the three and nine months ended September 30, 2002 was \$3,778,000 and \$10,120,000, respectively, and was \$1,354,000 and \$3,420,000 for the three and nine months ended September 30, 2001, respectively. Estimated amortization expense related to acquired intangibles for each of the five succeeding fiscal years is as follows:

YEAR	AMOUNT
----	-----
2002	\$13,898
2003	14,576
2004	14,251
2005	13,351
2006	11,249

**GOODWILL**

SFAS 142 requires the Company to complete a transitional goodwill impairment test six months from the date of adoption. During the second quarter of 2002, the Company completed the transitional goodwill impairment test as of January 1, 2002 and no adjustment to goodwill was necessary. The changes in the carrying amount of goodwill by reportable segments during the three and nine months ended September 30, 2002 were as follows:

	NORTH AMERICA	FAR EAST	EUROPE	TOTAL
	-----	-----	-----	-----
Balance at December 31, 2001.....	\$ 29,606	\$296	\$ 1,211	\$ 31,113
Workforce reclassification.....	2,023	---	---	2,023
Goodwill acquired during the quarter.....	203,496	---	14,678	218,174
	-----	-----	-----	-----
Balance at March 31, 2002.....	235,125	296	15,889	251,310
Finalization of purchase price allocation.....	(6,089)	---	4,022	(2,067)
Goodwill acquired during the quarter.....	---	---	9,648	9,648
	-----	-----	-----	-----
Balance at June 30, 2002.....	\$229,036	\$296	\$29,559	\$258,891
Finalization of purchase price allocation.....	(284)	---	---	(284)
Foreign currency translation.....	---	(5)	(77)	(82)
	-----	-----	-----	-----
Balance at September 30, 2002.....	\$228,752	\$291	\$29,482	\$258,525
	=====	=====	=====	=====

MKS INSTRUMENTS, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (Continued)  
(Tables in thousands, except per share data)

The following is the pro forma effect on net income and net income per share had SFAS No. 142 been in effect for the following periods:

	THREE MONTHS ENDED SEPTEMBER 30, 2001	NINE MONTHS ENDED SEPTEMBER 30, 2001
	-----	-----
Reported net loss.....	\$(9,071)	\$(15,358)
Add back: impact of goodwill amortization, net of taxes.....	1,456	3,786
	-----	-----
Adjusted net loss.....	\$(7,615)	\$(11,572)
	=====	=====
Basic and diluted net loss per share.....	\$ ( 0.24)	\$ ( 0.41)
Add back: impact of goodwill amortization, net of taxes.....	0.04	0.10
	-----	-----
Adjusted basic and diluted net loss per share.....	\$ (0.20)	\$ (0.31)
	=====	=====

5) CASH AND CASH EQUIVALENTS AND INVESTMENTS  
Cash and Cash equivalents consist of the following:

	SEPTEMBER 30, 2002	DECEMBER 31, 2001
	-----	-----
Cash and Money Market Instruments.....	\$36,662	\$101,045
Commercial Paper.....	22,353	8,094
Federal Government and Government Agency Obligations.....	15,066	11,730
Corporate Obligations.....	1,514	---
	-----	-----
	\$75,595	\$120,869
	=====	=====

Short-term available-for-sale investments at market value maturing within one year consist of the following:

	SEPTEMBER 30, 2002	DECEMBER 31, 2001
	-----	-----
Federal Government and Government Agency Obligations.....	\$26,047	\$ 5,442
Certificate of Deposits.....	4,414	---
Commercial Paper.....	7,193	8,083
State and Municipal Government Obligations.....	---	3,100
	-----	-----
	\$37,654	\$16,625
	=====	=====

Long-term available-for-sale investments at market value with maturities of 1 to 5 years consist of the following:

	SEPTEMBER 30, 2002	DECEMBER 31, 2001
	-----	-----
Federal Government and Government Agency Obligations.....	\$ 6,676	\$ 1,008
State and Municipal Government Obligations.....	---	7,021
Corporate Obligations.....	8,982	3,000
	-----	-----
	\$15,658	\$11,029
	=====	=====

MKS INSTRUMENTS, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (Continued)  
(Tables in thousands, except per share data)

- 6) NET LOSS PER SHARE  
The following table sets forth the computation of basic and diluted net loss per share:

	THREE MONTHS ENDED 2002 ----	SEPTEMBER 30, 2001 ----
Numerator		
Net loss .....	\$(3,825)	\$ (9,071)
	=====	=====
Denominator		
Shares used in net loss per common share -- basic and diluted...	51,262	37,801
	=====	=====
Net loss per common share		
Basic and diluted .....	\$ (0.07)	\$ (0.24)
	=====	=====

	NINE MONTHS ENDED 2002 ----	SEPTEMBER 30, 2001 ----
Numerator		
Net loss .....	\$ (20,306)	\$(15,358)
	=====	=====
Denominator		
Shares used in net loss per common share -- basic and diluted..	49,567	37,364
	=====	=====
Net loss per common share		
Basic and diluted .....	\$ (0.41)	\$ (0.41)
	=====	=====

For purposes of computing diluted earnings per share, weighted average common share equivalents do not include stock options with an exercise price greater than the average market price of the common shares during the period. All options outstanding during the three and nine months ended September 30, 2002 and 2001 are excluded from the calculation of diluted net loss per common share because their inclusion would be anti-dilutive. There were options to purchase approximately 7,114,000 and 5,069,000 shares of the Company's common stock outstanding as of September 30, 2002 and 2001, respectively.

- 7) INVENTORIES  
Inventories consist of the following:

	SEPTEMBER 30, 2002 ----	DECEMBER 31, 2001 ----
Raw material.....	\$32,129	\$21,019
Work in process.....	20,778	15,362
Finished goods.....	29,957	20,573
	-----	-----
	\$82,864	\$56,954
	=====	=====

- 8) STOCKHOLDERS' EQUITY  
Total comprehensive loss was as follows:

	THREE MONTHS ENDED 2002 ----	SEPTEMBER 30, 2001 ----
Net loss .....	\$(3,825)	\$(9,071)
Other comprehensive income (loss), net of taxes:		
Changes in value of financial instruments designated		
as hedges of currency and interest rate exposures .....	(127)	(799)
Foreign currency translation adjustment .....	(83)	987
Unrealized gain (loss) on investments .....	(2)	(1)
	-----	-----
Other comprehensive income (loss), net of taxes .....	(212)	187
	-----	-----
Total comprehensive loss .....	\$(4,037)	\$(8,884)
	=====	=====



MKS INSTRUMENTS, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (Continued)  
(Tables in thousands, except per share data)

	NINE MONTHS ENDED 2002 ----	SEPTEMBER 30, 2001 ----
Net loss.....	\$(20,306)	\$(15,358)
Other comprehensive income (loss), net of taxes:		
Changes in value of financial instruments designated as hedges of currency and interest rate exposures.....	(279)	(186)
Foreign currency translation adjustment.....	1,728	22
Unrealized gain (loss) on investments.....	61	(315)
	-----	-----
Other comprehensive income (loss), net of taxes.....	1,510	(479)
	-----	-----
Total comprehensive loss.....	\$(18,796) =====	\$(15,837) =====

9) INCOME TAXES

Deferred tax assets and liabilities are determined based on differences between financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The measurement of deferred tax assets is reduced by a valuation allowance if, based upon weighted available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized.

The Company does not provide for a U.S. income tax liability on undistributed earnings of its foreign subsidiaries. The earnings of non-U.S. subsidiaries, which reflect full provision for non-U.S. income taxes, are indefinitely reinvested in non-U.S. operations or will be remitted substantially free of additional tax. As of September 30, 2002, the unrecognized deferred tax liability associated with these unremitted earnings was approximately \$2,000,000.

The Company evaluates the realizability of its deferred tax assets and assesses the need for a valuation allowance each quarter. 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 semiconductor industry is in a downturn, and the Company has incurred significant losses from operations over several quarters. The Company believes that its net deferred tax assets will be realized. However, if the Company continues to incur losses from operations, and the outlook remains unclear, the Company may be required under Generally Accepted Accounting Principles to establish a valuation allowance against all or a significant portion of its net deferred tax assets. To the extent the Company establishes a valuation allowance, an expense will be recorded within the provision for income taxes line in the Statement of Income.

10) SEGMENT INFORMATION AND SIGNIFICANT CUSTOMER

Segment information for the three months ended September 30, 2002 and 2001 was as follows:

		NORTH AMERICA -----	FAR EAST -----	EUROPE -----	TOTAL -----
Net sales to unaffiliated customers	2002	\$58,254	\$23,131	\$10,831	\$92,216
	2001	33,537	11,082	8,582	53,201
Intersegment net sales	2002	19,346	5,401	317	25,064
	2001	10,858	169	326	11,353
Income (loss) from operations	2002	(12,744)	4,644	634	(7,466)
	2001	(15,011)	865	445	(13,701)

MKS INSTRUMENTS, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (Continued)  
(Tables in thousands, except per share data)

Segment information for the nine months ended September 30, 2002 and 2001 was as follows:

		NORTH AMERICA -----	FAR EAST -----	EUROPE -----	TOTAL -----
Net sales to unaffiliated customers	2002	\$155,942	\$53,240	\$28,033	\$237,215
	2001	163,733	40,885	32,127	236,745
Intersegment net sales	2002	46,375	10,055	973	57,403
	2001	39,265	857	1,041	41,163
Income (loss) from operations	2002	(41,031)	7,236	1,568	(32,227)
	2001	(29,793)	4,212	4,903	(20,678)

The Company had one customer comprising 25% and 14% of net sales for the three months ended September 30, 2002 and 2001, respectively, and 24% and 19% of net sales for the nine months ended September 30, 2002 and 2001, respectively.

11) COMMITMENTS AND CONTINGENCIES

On November 3, 1999, On-Line Technologies, Inc. ("On-Line"), which was acquired by the Company in April 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. The suit seeks injunctive relief and damages for infringement. Perkin-Elmer, Inc. has filed a counterclaim seeking invalidity of the patent, costs, and attorneys' fees. The Company believes that the counterclaim is without merit.

The Company cannot be certain of the outcome of the foregoing litigation, but does plan to assert its claims against other parties and oppose the counterclaims against it vigorously.

On November 30, 2000, ASTeX, which was acquired by the Company in January 2001, brought suit in federal district court in Delaware against Advanced Energy Industries, Inc. ("Advanced Energy") for infringement of ASTeX's patent related to its Astron product. On May 17, 2002, a jury affirmed the validity of the Company's patent and found that Advanced Energy infringed the patent. On May 31, 2002, based on the jury's findings, the Court entered a judgement on the infringement claim in favor of the Company and against Advanced Energy, and awarded \$4,200,000 in damages to compensate the Company for Advanced Energy's infringing activity. Advanced Energy filed motions to overturn the verdict. During August of 2002, the Company and Advanced Energy entered into an agreement whereby Advanced Energy agreed to pay the awarded damages amount to the Company and withdraw its motions to overturn the verdict. The Company received the \$4,200,000 in September 2002, and recorded the amount as Income from litigation settlement.

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.

12) ACQUISITIONS AND DISPOSAL OF ASSETS

On January 31, 2002, MKS completed its acquisition of the ENI Business of Emerson Electric Co. ("ENI"), a supplier of solid-state radio frequency (RF) and direct current (DC) plasma power supplies, matching networks and instrumentation to the semiconductor and thin-film processing industries. The reasons for the acquisition of ENI were based upon the ability to offer higher value and more integrated application solutions by combining ENI's solid-state power conversion technology with the Company's core competency in plasma and reactive gas solutions.

MKS INSTRUMENTS, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (Continued)  
(Tables in thousands, except per share data)

The acquisition has been accounted for under the purchase method of accounting. The purchase price was approximately \$266,530,000 and consisted of approximately 12,000,000 shares of MKS common stock valued at approximately \$261,264,000 and transaction expenses of approximately \$5,266,000. The value of MKS common stock was approximately \$21.7720 per share based on the average closing price of MKS' common stock for the five-day period including the date of the announcement of the signing of the merger agreement and the two days preceding and succeeding such date.

The purchase price was allocated to the assets acquired based upon their estimated fair values and resulted in an allocation of approximately \$197,123,000 to goodwill. The results of operations are included in the Company's consolidated statement of income as of and since the date of the purchase. The allocation of the purchase price is as follows:

Current assets.....	31,038
Other assets.....	2,123
Fixed assets.....	18,882
Completed technology.....	39,600
Patents.....	6,500
Customer relationships.....	2,600
In-process research and development.....	7,500
Goodwill.....	197,123
Other liabilities.....	(13,883)
Long term liabilities.....	(24,953)
	-----
	\$266,530
	=====

The amounts allocated to acquired intangible assets are being amortized using the straight-line method over their respective estimated useful lives: 6 years for completed technology, 8 years for patents, and 8 years for customer relationships. The total weighted average amortizable life of the acquired intangible assets is 6 years.

In connection with the acquisition of ENI, the Company obtained an appraisal from an independent appraiser of the fair value of its intangible assets. This appraisal valued purchased in-process research and development ("IPR&D") of various projects for the development of new products and technologies at approximately \$7,500,000. Because the technological feasibility of products under development had not been established and no future alternative uses existed, the purchased IPR&D was expensed during the six months ended June 30, 2002. The value of the purchased IPR&D was determined using the income approach, which discounts expected future cash flows from projects under development to their net present value. Each project was analyzed to determine the technological innovations included; the utilization of core technology; the complexity, cost and time to complete development; any alternative future use or current technological feasibility; and the stage of completion. The cash flows derived from the IPR&D projects were discounted at rates ranging from 25% to 30%. The Company believes these rates were appropriate given the risks associated with the technologies for which commercial feasibility had not been established. The percentage of completion for each in-process project was determined by identifying the cost incurred to date of the project as a ratio of the total estimated cost required to bring the project to technical and commercial feasibility. The percentage of completion for in-process projects acquired ranged from 65% to 80%, based on management's estimates of tasks completed and the tasks to be completed to bring the projects to technological and commercial feasibility. The projects were generally expected to have durations of up to 12 months. As of September 30, 2002, the actual development timelines and costs were in line with management's estimates.

MKS INSTRUMENTS, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)  
(Tables in thousands, except per share data)

In connection with the acquisition of On-Line, the Company obtained an appraisal from an independent appraiser of the fair value of its intangible assets. This appraisal valued purchased IPR&D of various projects for the development of new products and technologies at approximately \$2,340,000. The projects were generally expected to have durations of 24 to 48 months. Because the technological feasibility of products under development had not been established and no future alternative uses existed, the purchased IPR&D was expensed during the quarter ended June 30, 2001. The value of the purchased IPR&D was determined using the income approach, which discounts expected future cash flows from projects under development to their net present value.

Each project was analyzed to determine the technological innovations included; the utilization of core technology; the complexity, cost and time to complete development; any alternative future use or current technological feasibility; and the stage of completion. The cash flows derived from the in-process technology projects were discounted at a rate of 25%. The Company believes this rate was appropriate given the risks associated with the technologies for which commercial feasibility had not been established. The percentage of completion for each in-process project was determined by identifying the elapsed time invested in the project as a ratio of the total time required to bring the project to technical and commercial feasibility. The percentage of completion for in-process projects acquired ranged from 55% to 65%, based on management's estimates of tasks completed and the tasks to be completed to bring the projects to technological and commercial feasibility.

Development of in-process technology remains a substantial risk to the Company due to a variety of factors including the remaining effort to achieve technical feasibility, rapidly changing customer requirements and competitive threats from other companies and technologies.

On March 13, 2002, MKS completed its acquisition of Tenta Technology Ltd. ("Tenta"), a supplier of modular, computer-based process control systems that are designed for 300mm semiconductor process tool applications. The reasons for the acquisition of Tenta were based upon the ability to offer higher value and more integrated application solutions by integrating Tenta's process controllers with MKS' digital network products to provide a more complete process control solution. The acquisition has been accounted for under the purchase method of accounting. The purchase price was allocated to the net assets acquired based upon their estimated fair values. The results of operations are included in the Company's consolidated statement of income as of and since the date of the purchase.

On April 5, 2002, the Company completed its acquisition of privately held IPC Fab Automation GmbH ("IPC"), a developer and provider of web-based hardware and software that enable e-diagnostics and advanced process control for advanced manufacturing customers. The reasons for the acquisition of IPC were based upon the ability to offer higher value and more integrated application solutions by integrating IPC's connectivity hardware and software with MKS' digital network products to provide a more complete process control solution. The acquisition has been accounted for under the purchase method of accounting. The purchase price was allocated to the net assets acquired based upon their estimated fair values. The purchase price allocation is preliminary and dependent upon the completion of an acquired intangibles valuation report. The results of operations are included in the Company's consolidated statement of income as of and since the date of the purchase.

MKS INSTRUMENTS, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (Continued)  
(Tables in thousands, except per share data)

The following unaudited pro forma information presents a summary of the historical results of operations of the Company as if the ENI, Tenta, and IPC acquisitions had occurred at the beginning of each period.

	THREE MONTHS ENDED SEPTEMBER 30, 2001 ----	NINE MONTHS ENDED SEPTEMBER 30, 2002 -----	
		2002 -----	2001 -----
Net sales.....	\$ 67,160	\$241,662	\$317,434
Net loss.....	\$(16,802)	\$(14,496)	\$(22,692)
Net loss per share:			
Basic and diluted.....	\$ (0.33)	\$ (0.28)	\$ (0.45)

The unaudited pro forma results for the nine months ended September 30, 2002 excludes approximately \$1.3 million of non-recurring charges directly related to the transaction that were incurred by Tenta prior to the date of the acquisition. Additionally, the charges for purchased IPR&D were not included in the unaudited pro forma results, because they were non-recurring and directly related to the transactions.

These unaudited pro forma results have been prepared for comparative purposes only and do not purport to be indicative of the results of operations which actually would have resulted had the acquisitions occurred at the beginning of the period, or which may result in the future.

In August 2001, the Company sold certain assets for proceeds of approximately \$9,000,000, consisting of approximately \$4,700,000 in cash, \$3,900,000 in a note receivable, and \$200,000 of warrants. The note receivable matures August 7, 2004, and bears an annual interest rate of 9.0%. The loss on the transaction was \$1,246,000 before taxes. In the three months ended September 30, 2002, the Company recorded a charge of \$4,121,000 to other expense for the Company's estimate of the impairment on the note receivable and warrants.

13) GOODWILL IMPAIRMENT CHARGE

When the Company acquired the Shamrock product line, it was expected that sales of the existing system design and development of new system designs would generate future revenues. Since the acquisition, the Company has provided potential customers with purchase quotations for Shamrock systems, including a significant quotation to a potential customer in January 2001 for the sale of several systems. The customer did not purchase the systems, and the quotation expired in March 2001. The Company was unsuccessful in selling any systems of the product line after the acquisition and, with the expiration of the significant quote in March 2001, the Company evaluated the recoverability of the long-lived assets, primarily goodwill. As a result, based on discounted cash flow analysis, the Company recorded an impairment charge for the carrying value of the related goodwill of approximately \$3,720,000 in the quarter ended March 31, 2001.

14) MERGER COSTS

On January 26, 2001 MKS completed its acquisition of ASTeX in a transaction accounted for under the pooling of interests method of accounting. Under the pooling of interests method of accounting, fees and expenses related to the merger are expensed in the period of the merger. During the three months ended March 31, 2001, MKS expensed approximately \$7.7 million of merger related expenses, consisting of \$6.9 million of investment banking, legal, accounting, printing and other professional fees, and \$0.8 million of regulatory and other costs.

MKS INSTRUMENTS, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (Continued)  
(Tables in thousands, except per share data)

15) RESTRUCTURING AND ASSET IMPAIRMENT CHARGES

During the quarter ended September 30, 2002 the Company implemented a consolidation of recent acquisitions to accelerate product development, rationalize manufacturing operations, and reduce operating costs. As a result of these actions, the Company recorded restructuring and asset impairment charges of \$2,408,000. The charges consisted of \$631,000 of severance costs related to a workforce reduction, \$910,000 related to consolidation of leased facilities, and an asset impairment charge of \$867,000 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 reduction was across all functional groups and consisted of 225 employees, with 173 terminated during the quarter. Severance costs of \$262,000 were paid during the quarter ended September 30, 2002. The remainder of the severance costs are expected to be paid by the end of the second quarter of 2003. The facilities consolidation charges will be paid over the respective lease terms ending in 2007. The impaired assets are in the North America segment of the Company.

A summary of the restructuring charges and related asset impairments during the three months ended September 30, 2002 is outlined as follows:

	TOTAL CHARGES -----	CASH PAYMENTS -----	NON-CASH CHARGES -----	ACCRUAL BALANCE -----
Workforce reductions.....	\$ 631	\$(262)	\$ ---	\$ 369
Facility consolidations.....	910	---	---	910
Assets impairment.....	867	---	(867)	---
	-----	-----	-----	-----
	\$2,408	\$(262)	\$(867)	\$1,279
	=====	=====	=====	=====

MKS INSTRUMENTS, INC.

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

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, including this Management's Discussion and Analysis, the words "believes," "anticipates," "plans," "expects," 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. MKS Instruments, Inc. assumes no obligation to update this information. Risks and uncertainties include, but are not limited to those discussed in the section entitled "Factors That May Affect Future Results."

OVERVIEW

MKS develops, manufactures and provides instruments, components and integrated subsystems used to measure, control, power and monitor critical parameters of semiconductor and other advanced manufacturing process environments. The Company estimates that during 2001 approximately 64% of its net sales were to semiconductor capital equipment manufacturers and semiconductor device manufacturers.

On January 31, 2002, MKS completed its acquisition of the ENI Business of Emerson Electric Co. ("ENI"), a supplier of solid-state radio frequency (RF) and direct current (DC) plasma power supplies, matching networks and instrumentation to the semiconductor and thin-film processing industries. The reasons for the acquisition of ENI were based upon the ability to offer higher value and more integrated application solutions by combining ENI's solid-state power conversion technology with the Company's core competency in plasma and reactive gas solutions. The acquisition has been accounted for under the purchase method of accounting. The purchase price was approximately \$266,530,000 and consisted of approximately 12,000,000 shares of MKS common stock valued at approximately \$261,264,000 and transaction expenses of approximately \$5,266,000. The value of MKS common stock was approximately \$21.7720 per share based on the average closing price of MKS' common stock for the five-day period including the date of the announcement of the signing of the merger agreement and the two days preceding and succeeding such date. The purchase price was allocated to the assets acquired based upon their estimated fair values and resulted in an allocation of approximately \$197,123,000 to goodwill. The results of operations are included in the Company's consolidated statement of income as of and since the date of the purchase.

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 statement of income data.

	THREE MONTHS ENDED		NINE MONTHS ENDED	
	SEPTEMBER 30,		SEPTEMBER 30,	
	2002	2001	2002	2001
	----	----	----	----
Net sales .....	100.0%	100.0%	100.0%	100.0%
Cost of sales .....	65.5	69.7	66.0	64.1
	-----	-----	-----	-----
Gross profit .....	34.5	30.3	34.0	35.9
Research and development .....	13.7	17.5	14.3	12.6
Selling, general and administrative .....	22.2	32.8	24.5	22.9
Amortization of goodwill and acquired intangible assets.....	4.1	5.7	4.3	3.4
Goodwill impairment charge .....	---	---	---	1.6
Merger expenses .....	---	---	---	3.2
In-process research and development .....	---	---	3.5	1.0
Restructuring and asset impairment charges .....	2.6	---	1.0	---
	-----	-----	-----	-----
Loss from operations .....	(8.1)	(25.7)	(13.6)	(8.8)
Interest income, net .....	0.5	1.4	0.5	1.4
Income from litigation settlement .....	4.6	---	1.8	---
Other expense .....	4.5	2.3	1.7	0.5
	-----	-----	-----	-----
Loss before income taxes .....	(7.5)	(26.6)	(13.0)	(7.9)
Provision (benefit) for income taxes .....	(3.4)	(9.6)	(4.4)	(1.4)
	-----	-----	-----	-----
Net loss .....	(4.1)%	(17.0)%	(8.6)%	(6.5)%
	=====	=====	=====	=====

NET SALES. Net sales increased 73.3% to \$92.2 million for the three months ended September 30, 2002 from \$53.2 million for the three months ended September 30, 2001. International net sales were approximately \$34.0 million for the three months ended September 30, 2002 or 36.8% of net sales and \$19.7 million for the same period of 2001 or 37.0% of net sales. Net sales of \$237.2 million for the nine months ended September 30, 2002 was approximately the same as net sales of \$236.7 million for the same period of 2001. International net sales were approximately \$81.3 million for the nine months ended September 30, 2002 or 34.3% of net sales and \$73.0 million for the same period of 2001 or 30.8% of net sales. The increase in net sales in the three months ended September 30, 2002 compared to the same period of 2001 was due to increased worldwide demand for the Company's products from the Company's semiconductor capital equipment manufacturer and semiconductor device manufacturer customers during the quarter. Additionally, net sales in 2002 includes the revenues of ENI, Tenta and IPC, the companies acquired during the year.

The net sales of the Company for the nine months ended September 30, 2002, excluding the amount of revenue of the companies acquired in 2002, declined compared to the same period of 2001. The decrease was due to the worldwide slowdown in demand for the Company's products from the Company's semiconductor capital equipment manufacturer and semiconductor device manufacturer customers, which began in the first quarter of 2001 and continued through the third quarter of 2002. Although net sales increased in the three months ended September 30, 2002, the Company believes that net sales could decline to between \$65 million and \$75 million in the three months ended December 31, 2002. The Company cannot determine how long the downturn will last. In the absence of significant improvement, net sales could continue to decline or remain low, and the amount of goodwill, other long-lived assets, deferred tax assets, and inventory considered realizable could be significantly reduced.

GROSS PROFIT. Gross profit as a percentage of net sales increased to 34.5% for the three months ended September 30, 2002 from 30.3% for the three months ended September 30, 2001. The increase was primarily due to fuller utilization of existing manufacturing capacity as a result of increased net sales and other manufacturing efficiencies, partially offset by charges related to excess and obsolete inventory and warranty costs. Gross profit as a percentage of net sales decreased to 34.0% for the nine months ended September 30, 2002 from 35.9% for the same period of 2001. The reduction in gross profit percentage was primarily due to the addition of the manufacturing overhead costs of the companies acquired in 2002.

**RESEARCH AND DEVELOPMENT.** Research and development expense increased 36.0% to \$12.7 million or 13.7% of net sales for the three months ended September 30, 2002 from \$9.3 million or 17.5% of net sales for the three months ended September 30, 2001. The increase was due to increased compensation expense of \$1.9 million and increased expenses for project materials of \$1.3 million, primarily from the companies acquired during the year. Research and development expense increased 13.1% to \$33.8 million or 14.3% of net sales for the nine months ended September 30, 2002 from \$29.9 million or 12.6% of net sales for the same period of 2001. The increase was due to increased compensation expense of \$2.3 million and increased expenses for project materials of \$1.7 million, primarily from the companies acquired during the year.

**SELLING, GENERAL AND ADMINISTRATIVE.** Selling, general and administrative expenses increased 17.1% to \$20.5 million or 22.2% of net sales for the three months ended September 30, 2002 from \$17.5 million or 32.8% of net sales for the three months ended September 30, 2001. The increase was due to increased compensation expense of \$1.6 million and other selling expenses, primarily from the companies acquired during the year. Selling, general and administrative expenses increased 7.6% to \$58.2 million or 24.5% of net sales for the nine months ended September 30, 2002 from \$54.1 million or 22.9% of net sales for the same period of 2001. The increase was due to increased compensation expense of \$3.0 million, primarily from the companies acquired during the year, and increased professional fees.

**AMORTIZATION OF GOODWILL AND ACQUIRED INTANGIBLE ASSETS.** Amortization expense of \$3.8 million and \$10.1 million for the three and nine months ended September 30, 2002, respectively, represents the amortization of the identifiable intangibles resulting from the acquisitions completed by MKS. In accordance with SFAS No. 142, the Company ceased amortizing goodwill on January 1, 2002. Amortization of goodwill was \$1.7 million and \$4.6 million for the three and nine months ended September 30, 2001, respectively. Amortization of the identifiable intangibles was \$1.3 million and \$3.4 million for the three and nine months ended September 30, 2001, respectively.

**GOODWILL IMPAIRMENT CHARGE.** When the Company acquired the Shamrock product line, it was expected that sales of the existing system design and development of new system designs would generate future revenues. The Company had provided potential customers with purchase quotations for Shamrock systems, including a significant quotation to a potential customer in January 2001 for the sale of several systems. The customer did not purchase the systems, and the quotation expired in March 2001. The Company was unsuccessful in selling any systems of the product line after the acquisition and, with the expiration of the significant quote in March 2001, the Company evaluated the recoverability of the long-lived assets, primarily goodwill. As a result, based on discounted cash flow analysis, the Company recorded an impairment charge for the carrying value of the related goodwill of approximately \$3.7 million in the quarter ended March 31, 2001.

**MERGER COSTS.** On January 26, 2001 MKS completed its acquisition of ASTeX in a transaction accounted for under the pooling of interests method of accounting. Under the pooling of interests method of accounting, fees and expenses related to the merger are expensed in the period of the merger. During the nine months ended June 30, 2001, MKS expensed approximately \$7.7 million of merger related expenses, consisting of \$6.9 million of investment banking, legal, accounting, printing and other professional fees, and \$0.8 million of regulatory and other costs.

**PURCHASE OF IN-PROCESS TECHNOLOGY.** In-process research and development of \$8.4 million and \$2.3 million for the nine months ended September 30, 2002 and 2001 arose from the acquisitions the Company made in 2002 and 2001, respectively.

In January 2002, the Company acquired ENI in a transaction accounted for under the purchase method. The purchase price was allocated to the assets acquired, including intangible assets, based on their estimated fair values. The intangible assets include approximately \$7.5 million for acquired in-process technology for projects, generally expected to have durations of 12 months, that did not have future alternative uses. The value of the purchased in-process technology was determined using the income approach, which discounts expected future cash flows from projects under development to their net present value. Each project was analyzed to determine the technological innovations included; the utilization of core technology; the complexity, cost and time to complete development; any alternative future use or current technological feasibility; and the stage of completion. The cash flows derived from the in-process technology projects were discounted at rates ranging from 25% to 30%. The Company believes these rates were appropriate given the risks

associated with the technologies for which commercial feasibility had not been established. The percentage of completion for each in-process project was determined by identifying the cost incurred to date of the project as a ratio of the total cost required to bring the project to technical and commercial feasibility. The percentage completion for in-process projects acquired ranged from 65% to 80% complete, based on management's estimates of tasks completed and the tasks to be completed to bring the projects to technological and commercial feasibility. At the date of the acquisition, the development of these projects had not yet reached technological feasibility, and the technology in progress had no alternative future uses. Accordingly, these costs were expensed in the first six months of 2002.

In April 2001, the Company acquired On-Line in a transaction accounted for as a purchase. The purchase price was allocated to the assets acquired, including intangible assets, based on their estimated fair values. The intangible assets include approximately \$2.3 million for acquired in-process technology for various projects, generally expected to have durations of 24 to 48 months, that did not have future alternative uses. The value of the purchased in-process technology was determined using the income approach, which discounts expected future cash flows from projects under development to their net present value. Each project was analyzed to determine the technological innovations included; the utilization of core technology; the complexity, cost and time to complete development; any alternative future use or current technological feasibility; and the stage of completion. The cash flows derived from the in-process technology projects were discounted at a rate of 25%. The Company believes this rate was appropriate given the risks associated with the technologies for which commercial feasibility had not been established. The percentage of completion for each in-process project was determined by identifying the elapsed time invested in the project as a ratio of the total time required to bring the project to technical and commercial feasibility. The percentage of completion for in-process projects acquired ranged from 55% to 65%, based on management's estimates of tasks completed and the tasks to be completed to bring the projects to technological and commercial feasibility. At the date of the acquisition, the development of these projects had not yet reached technological feasibility, and the technology in progress had no alternative future uses. Accordingly, these costs were expensed in the second quarter of 2001.

**RESTRUCTURING AND ASSET IMPAIRMENT CHARGES.** During the quarter ended September 30, 2002 the Company implemented a consolidation of recent acquisitions to accelerate product development, rationalize manufacturing operations, and reduce operating costs. As a result of these actions, the Company recorded restructuring and asset impairment charges of \$2.4 million. The charges consisted of \$0.6 million of severance costs related to a workforce reduction, \$0.9 million related to consolidation of leased facilities, and an asset impairment charge 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 reduction was across all functional groups and consisted of 225 employees, with 173 terminated during the quarter. Severance costs of \$0.3 million were paid during the quarter ended September 30, 2002. The remainder of the severance costs are expected to be paid by the end of the second quarter of 2003. The facilities consolidation charges will be paid over the respective lease terms ending in 2007. The impaired assets are in the North America segment of the Company.

**INTEREST INCOME (EXPENSE), NET.** During the three and nine months ended September 30, 2002, the Company generated net interest income of \$0.4 million and \$1.2 million, respectively, primarily from interest on its invested cash and short-term investments, offset by interest expense on outstanding debt.

**INCOME FROM LITIGATION SETTLEMENT.** On November 30, 2000, ASTeX, which was acquired by MKS in January 2001, brought suit in federal district court in Delaware against Advanced Energy Industries, Inc. ("Advanced Energy") for infringement of ASTeX's patent related to its Astron product. On May 17, 2002, a jury affirmed the validity of the Company's patent and found that Advanced Energy infringed the patent. On May 31, 2002, based on the jury's findings, the Court entered a judgement on the infringement claim in favor of the Company and against Advanced Energy, and awarded \$4.2 million in damages to compensate the Company for Advanced Energy's infringing activity. Advanced Energy filed motions to overturn the verdict. During August of 2002, the Company and Advanced Energy entered into an agreement whereby Advanced Energy agreed to pay the awarded damages amount to the Company and withdraw its motions to overturn the verdict. The Company received the \$4.2 million in September 2002, and recorded the amount as Income from litigation settlement.

OTHER EXPENSE. During August 2001, MKS sold certain assets for proceeds of approximately \$9.0 million, including a note receivable of approximately \$3.9 million, and warrants of \$0.2 million. The loss on the transaction was \$1.2 million and was recorded as other expense for the three and nine months ended September 30, 2001. In the three months ended September 30, 2002, MKS recorded a charge of \$4.1 million to other expense for the Company's estimate of the impairment on the note receivable and warrants.

BENEFIT FOR INCOME TAXES. The Company's effective tax rate for the three months ended September 30, 2002 was a benefit of 45%, which differed from the statutory rate of 35% due to favorable tax attributes from its foreign subsidiaries. The effective tax rate for the nine months ended September 30, 2002 was a benefit of 34%. The impact of the favorable tax attributes from foreign subsidiaries in the nine months of 2002 was offset by the impact of non-deductible charges associated with acquisitions made in 2002.

The Company's effective tax rates for the three and nine months ended September 30, 2001 were a benefit of 36% and a benefit of 18%, respectively. The effective tax rate for the nine months ended September 30, 2001 differed from the statutory rate of 35% due to the impact of non-deductible charges associated with acquisitions made in 2001.

The Company evaluates the realizability of its deferred tax assets and assesses the need for a valuation allowance each quarter. 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 semiconductor industry is in a downturn, and the Company has incurred significant losses from operations over several quarters. The Company believes that its net deferred tax assets will be realized. However, if the Company continues to incur losses from operations, and the outlook remains unclear, the Company may be required under Generally Accepted Accounting Principles to establish a valuation allowance against all or a significant portion of its net deferred tax assets. To the extent the Company establishes a valuation allowance, an expense will be recorded within the provision for income taxes line in the Statement of Income.

#### LIQUIDITY AND CAPITAL RESOURCES

The Company has financed its operations and capital requirements through a combination of cash provided by operations, long-term real estate financing, capital lease financing and short-term lines of credit.

Operations used cash of \$1.6 million for the nine months ended September 30, 2002. The cash flow from operations for the nine months ended September 30, 2002 was impacted by the net loss of \$20.3 million, an increase in accounts receivable of \$11.1 million, deferred tax benefits of \$9.3 million, and offset by non-cash charges for in-process research and development of \$8.4 million, depreciation and amortization of \$21.2 million, and asset impairment charges of \$5.0 million. Investing activities utilized cash of \$48.5 million for the nine months ended September 30, 2002 primarily from purchases of investments and purchases of businesses. Financing activities provided cash of \$3.2 million, primarily from proceeds from employees exercising stock options.

Working capital was \$210.4 million as of September 30, 2002, a decrease of \$6.4 million from December 31, 2001. MKS entered into a credit agreement on July 31, 2002 whereby MKS has a combined \$40.0 million line of credit with two banks. The credit agreement expires on July 31, 2003 and has no collateral provisions.

MKS believes that its working capital, together with the cash anticipated to be generated from operations and funds available from existing credit facilities, will be sufficient to satisfy its estimated working capital and planned capital expenditure requirements through at least the next 12 months.

## FACTORS THAT MAY AFFECT FUTURE RESULTS

MKS believes that this document contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are subject to risks and uncertainties and are based on the beliefs and assumptions of management of MKS, based on information currently available to MKS' management. Use of words such as "believes," "expects," "anticipates," "intends," "plans," "estimates," "should," "likely" or similar expressions, indicate a forward-looking statement. Forward-looking statements involve risks, uncertainties and assumptions. Certain of the information contained in this Quarterly Report on Form 10-Q consists of forward-looking statements. Important factors that could cause actual results to differ materially from the forward-looking statements include the following:

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

MKS estimates that approximately 64% of its sales during 2001 were to semiconductor capital equipment manufacturers and semiconductor device manufacturers, and it expects that sales to such customers will continue to account for a substantial majority of its sales. MKS' 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 MKS' 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 1996 and 1998, the semiconductor capital equipment industry experienced significant declines, which caused a number of MKS' customers to reduce their orders. More recently, in 2001 and 2002, MKS has experienced a significant reduction in demand from OEM customers, and lower gross margins due to reduced absorption of manufacturing overhead at the lower revenue levels. MKS incurred special charges for excess and obsolete inventory of \$14.0 million in the fourth quarter of 2001 and \$2.6 million in the second quarter of 2001. The charges were significantly higher than normal and were primarily caused by a significant reduction in demand including reduced demand for older technology products. In addition, many semiconductor manufacturers have operations and customers in Asia, a region which in recent years has experienced serious economic problems including currency devaluations, debt defaults, lack of liquidity and recessions. MKS cannot be certain that semiconductor downturns will not recur. A decline in the level of orders as a result of any future downturn or slowdown in the semiconductor capital equipment industry could have a material adverse effect on MKS' business, financial condition and results of operations.

MKS' QUARTERLY OPERATING RESULTS HAVE VARIED, AND ARE LIKELY TO CONTINUE TO VARY SIGNIFICANTLY. THIS MAY RESULT IN VOLATILITY IN THE MARKET PRICE FOR MKS' SHARES.

A substantial portion of MKS' shipments occur shortly after an order is received and therefore MKS operates with a low level of backlog. As a result, a decrease in demand for MKS' products from one or more customers could occur with limited advance notice and could have a material adverse effect on MKS' results of operations in any particular period. A significant percentage of MKS' 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 MKS' results of operations. Factors that could cause fluctuations in MKS' 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.

For example, MKS was in the process of increasing its production capacity when the semiconductor capital equipment market began to experience a significant downturn in 1996. This downturn had a material adverse effect on MKS' operating results in the second half of 1996 and the first half of 1997. After an increase in business in the latter half of 1997, the market experienced another downturn in 1998, which had a material adverse effect on MKS' 1998 and first quarter 1999 operating results. More recently, the semiconductor capital equipment market experienced a significant downturn during 2001 and continuing through the third quarter of 2002. As a result, MKS has experienced a reduction in demand from OEM customers, which has had a material adverse effect on MKS' operating results. During 2001 gross margins were negatively affected by special charges for excess and obsolete inventory of \$14.0 million in the fourth quarter of 2001 and \$2.6 million in the second quarter of 2001. The charges were significantly higher than normal and were primarily caused by a significant reduction in demand including reduced demand for older technology products. As a result of the factors discussed above, it is likely that MKS will in the future experience quarterly or annual fluctuations and that, in one or more future quarters, its operating results will fall below the expectations of public market analysts or investors. In any such event, the price of MKS' common stock could decline significantly.

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

MKS' top ten customers accounted for approximately 39% of its net sales in 2001, 52% of its net sales in 2000 and 46% of its net sales in 1999. 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 MKS' business, financial condition and results of operations. During 2001 and 2000, one customer, Applied Materials, accounted for approximately 18% and 30%, respectively, of MKS' net sales. None of MKS' significant customers, including Applied Materials, has entered into an agreement requiring it to purchase any minimum quantity of MKS' products. The demand for MKS' products from its 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 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. MKS' future success will continue to depend upon:

- its ability to maintain relationships with existing key customers;
- its ability to attract new customers; and
- the success of its customers in creating demand for their capital equipment products which incorporate MKS' products.

AS PART OF MKS' BUSINESS STRATEGY, MKS HAS ENTERED INTO AND MAY ENTER INTO OR SEEK TO ENTER INTO BUSINESS COMBINATIONS AND ACQUISITIONS THAT MAY BE DIFFICULT TO INTEGRATE, DISRUPT ITS BUSINESS, DILUTE STOCKHOLDER VALUE OR DIVERT MANAGEMENT ATTENTION.

MKS acquired Compact Instrument Technology, LLC ("Compact Instrument") in March 2000, Telvac Engineering, Ltd. ("Telvac") in May 2000, Spectra Instruments, LLC ("Spectra") in July 2000, D.I.P., Inc. ("D.I.P.") in September 2000, Applied Science and Technology, Inc. ("ASTeX") in January 2001, On-Line Technologies, Inc. ("On-Line") in April 2001, the ENI Business ("ENI") of Emerson Electric Co. in January 2002, Tenta Technologies Ltd. ("Tenta") in March 2002, and IPC Fab Automation GmbH ("IPC") in April 2002. As a part of its business strategy, MKS 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 MKS' ongoing business and distraction of management, expenses related to the acquisition and potential unknown liabilities associated with acquired businesses.

If MKS is not successful in completing acquisitions that it may pursue in the future, it may be required to reevaluate its growth strategy, and MKS may have incurred substantial expenses and devoted significant management time and resources in seeking to complete proposed acquisitions that will not generate benefits for it.

In addition, with future acquisitions, MKS could use substantial portions of its available cash as all or a portion of the purchase price. MKS could also issue additional securities as consideration for these acquisitions, which could cause significant stockholder dilution. MKS' acquisitions of Compact Instrument, Telvac, Spectra, D.I.P., ASTeX, On-Line, ENI, Tenta, and IPC and any future acquisitions may not ultimately help MKS achieve its strategic goals and may pose other risks to MKS.

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

The markets for MKS' products are highly competitive. Its competitive success often depends upon factors outside of its 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, MKS' success will depend in part on its ability to have semiconductor device manufacturers specify that MKS' products be used at their semiconductor fabrication facilities. In addition, MKS may encounter difficulties in changing established relationships of competitors that already have a large installed base of products within such semiconductor fabrication facilities.

IF MKS' PRODUCTS ARE NOT DESIGNED INTO SUCCESSIVE NEW GENERATIONS OF ITS CUSTOMERS' PRODUCTS, MKS 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. MKS' success depends on its products being designed into new generations of equipment for the semiconductor industry. MKS must develop products that are technologically current so that they are positioned to be chosen for use in each successive new generation of semiconductor capital equipment. If MKS products are not chosen by its customers, MKS' net sales may be reduced during the lifespan of its customers' products. In addition, MKS must make a significant capital investment to develop products for its customers well before its products are introduced and before it can be sure that it will recover its capital investment through sales to the customers in significant volume. MKS is thus also at risk during the development phase that its products may fail to meet its customers' technical or cost requirements and may be replaced by a competitive product or alternative technology solution. If that happens, MKS may be unable to recover MKS' development costs.

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

MKS' ability to increase sales of certain products depends in part upon its ability to expand its manufacturing capacity for such products in a timely manner. If MKS is unable to expand its manufacturing capacity on a timely basis or to manage such expansion effectively, its customers could implement its competitors' products and, as a result, its market share could be reduced. Because the semiconductor industry is subject to rapid demand shifts which are difficult to foresee, MKS may not be able to increase capacity quickly enough to respond to a rapid increase in demand in the semiconductor industry. Additionally, capacity expansion could increase MKS' fixed operating expenses and if sales levels do not increase to offset the additional expense levels associated with any such expansion, its business, financial condition and results of operations could be materially adversely affected.

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

International sales, which include sales by MKS' foreign subsidiaries, but exclude direct export sales (which were less than 10% of MKS' total net sales), accounted for approximately 31% of net sales in 2001, 23% of net sales in 2000 and 25% of net sales in 1999.

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

RISKS RELATING TO MKS' INTERNATIONAL OPERATIONS COULD ADVERSELY AFFECT MKS' OPERATING RESULTS.

MKS has substantial international sales, service and manufacturing operations in Europe and Asia, which exposes MKS to foreign operational and political risks that may harm MKS' business. MKS' international operations are subject to inherent risks, which may adversely affect MKS, including:

- - political and economic instability in countries where MKS has sales, service and manufacturing operations, particularly in Asia;
- - fluctuations in the value of currencies and high levels of inflation, particularly in Asia;
- - 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, MKS' operating results may be adversely affected.

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

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

KEY PERSONNEL MAY BE DIFFICULT TO ATTRACT AND RETAIN.

MKS' 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 MKS' business, financial condition and results of operations. MKS believes that its future success will depend in part on its ability to attract and retain highly skilled technical, financial, managerial and marketing personnel. MKS cannot be certain that it will be successful in attracting and retaining such personnel.

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

As of September 30, 2002, MKS owned 132 U.S. patents and 90 foreign patents and had 62 pending U.S. patent applications and 136 pending foreign patent applications. Although MKS seeks to protect its intellectual property rights through patents, copyrights, trade secrets and other measures, it cannot be certain that:

- - MKS will be able to protect its technology adequately;
- - competitors will not be able to develop similar technology independently;
- - any of MKS' pending patent applications will be issued;
- - intellectual property laws will protect MKS' intellectual property rights; or
- - third parties will not assert that MKS' products infringe patent, copyright or trade secrets of such parties.

PROTECTION OF MKS' INTELLECTUAL PROPERTY RIGHTS MAY RESULT IN COSTLY LITIGATION.

Litigation may be necessary in order to enforce MKS' patents, copyrights or other intellectual property rights, to protect its trade secrets, to determine the validity and scope of the proprietary rights of others or to defend against claims of infringement. For example, on November 3, 1999, On-Line Technologies Inc., which was acquired by MKS in April 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. Such litigation could result in substantial costs and diversion of resources and could have a material adverse effect on MKS' business, financial condition and results of operations.

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

The stock market has from time to time experienced, and is likely to continue to experience, extreme price and volume fluctuations. Recently, 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 MKS' common stock has fluctuated greatly since its 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 MKS were the object of securities class action litigation, it could result in substantial costs and a diversion of MKS' management's attention and resources.

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

MKS relies on sole, limited source suppliers, and international suppliers, for a few of its components and subassemblies that are critical to the manufacturing of MKS' 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 its suppliers to develop technologically advanced products to support MKS' growth and development of new systems.

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

#### MKS IS SUBJECT TO GOVERNMENTAL REGULATIONS.

MKS is subject to federal, state, local and foreign regulations, including environmental regulations and regulations relating to the design and operation of MKS' power supply products. MKS must ensure that these systems meet certain safety standards, many of which vary across the countries in which MKS' systems are used. For example, the European Union has published directives specifically relating to power supplies. MKS must comply with these directives in order to ship MKS' systems into countries that are members of the European Union. MKS believes it is in compliance with current applicable regulations, directives and standards and has obtained all necessary permits, approvals, and authorizations to conduct MKS' business. However, compliance with future regulations, directives and standards could require it to modify or redesign certain systems, make capital expenditures or incur substantial costs. If MKS does not comply with current or future regulations, directives and standards:

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

#### CERTAIN STOCKHOLDERS HAVE A SUBSTANTIAL INTEREST IN MKS AND MAY BE ABLE TO EXERT SUBSTANTIAL INFLUENCE OVER MKS' ACTIONS.

As of January 31, 2002, John R. Bertucci, president, chairman and chief executive officer of MKS, and certain members of his family, in the aggregate, beneficially owned approximately 29.8% of MKS' outstanding common stock. As a result, these stockholders, acting together, are able to exert substantial influence over the actions of MKS. Pursuant to the acquisition of the ENI Business of Emerson Electric Co. ("Emerson"), MKS issued approximately 24% of its then outstanding shares of common stock to Emerson. Accordingly, Emerson is able to exert substantial influence over MKS' actions.

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

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 value 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 MKS has no present plans to issue any preferred stock, MKS' 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 MKS. The issuance of preferred stock could adversely affect the voting power of the holders of MKS' common stock, including the loss of voting control to others. In addition, MKS' 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 MKS.

#### 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 the Consolidated Financial Statements for year ended December 31, 2001, which was filed on Form 10-K on April 1, 2002. MKS enters into local currency purchased options and forward exchange contracts to reduce currency exposure arising from intercompany sales of inventory. The potential fair value loss for a hypothetical 10% adverse change in currency exchange rates on MKS' local currency purchased options and forward exchange contracts at September 30, 2002 would be immaterial. The potential loss was estimated by calculating the fair value of the local currency purchased options and forward exchange contracts at September 30, 2002 and comparing that with those calculated using the hypothetical currency exchange rates.

As of September 30, 2002, MKS had \$4.0 million in inter-company debt denominated in Japanese Yen. MKS entered into forward exchange contracts to reduce the currency exposure arising from this debt. The potential fair value loss for a hypothetical 10% adverse change in the forward currency exchange rates on MKS' forward exchange contract would be immaterial. The potential loss was estimated by calculating the fair value of the forward exchange contracts at September 30, 2002 and comparing that with those calculated using the hypothetical forward currency exchange rate.

There were no other material changes in MKS' exposure to market risk from December 31, 2001.

#### ITEM 4. CONTROLS AND PROCEDURES

a) Evaluation of disclosure controls and procedures. Based on their evaluation of the Company's disclosure controls and procedures (as defined in Rules 13a-14(c) and 15d-14(c) under the Securities and Exchange Act of 1934) as of a date within 90 days of the filing date of this Quarterly Report on Form 10-Q, the Company's chief executive officer and chief financial officer have concluded that the Company's disclosure controls and procedures 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 and are operating in an effective manner.

b) Changes in internal controls. There were no significant changes in the Company's internal controls or in other factors that could significantly affect these controls subsequent to the date of their most recent evaluation.

#### PART II OTHER INFORMATION

##### ITEM 1. LEGAL PROCEEDINGS

On November 30, 2000, Applied Science and Technology, Inc. ("ASTeX"), which was acquired by MKS in January 2001, brought suit in federal district court in Delaware against Advanced Energy Industries, Inc. ("Advanced Energy") for infringement of ASTeX's patent related to its Astron product. On May 17, 2002, a jury affirmed the validity of the Company's patent and found that Advanced Energy infringed the patent. On May 31, 2002, based on the jury's findings, the Court entered a judgement on the infringement claim in favor of the Company and against Advanced Energy, and awarded \$4,200,000 in damages to compensate the Company for Advanced Energy's infringing activity. Advanced Energy filed motions to overturn the verdict. During August of 2002, the Company and Advanced Energy entered into an agreement whereby Advanced Energy agreed to pay the awarded damages amount to the Company and withdraw its motions to overturn the verdict. The Company received the \$4,200,000 in September 2002, and recorded the amount as Income from litigation settlement.

There were no other material litigation developments since the filing of MKS' Annual Report on Form 10-K on April 1, 2002.

##### ITEM 2. CHANGES IN SECURITIES AND USE OF PROCEEDS

###### (d) Use of Proceeds from Sales of Registered Securities.

The Company has previously provided information on Form 10-Q for the quarter ended September 30, 2000 relating to the use of proceeds from the sale of securities by the Company pursuant to the Registration Statement on Form S-1 (Reg. No. 333-71363) that was declared effective by the Securities and Exchange Commission on March 29, 1999. As of September 30, 2002, approximately \$30.8 million of the net proceeds from the securities sold has been used to acquire businesses. There has been no other change to the information previously provided.

##### ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

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

None.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS AND REPORTS ON FORM 8-K

(a) Exhibits

EXHIBIT NO.	EXHIBIT DESCRIPTION
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10.1	Second Restated 1995 Stock Incentive Plan
99.1	Statement Pursuant to 18 U.S.C [sec] 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
99.2	Statement Pursuant to 18 U.S.C [sec] 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

(b) Reports on Form 8-K

None.

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.

November 13, 2002

By: /s/ Ronald C. Weigner

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

CERTIFICATIONS

I, John R. Bertucci, certify that:

1. I have reviewed this quarterly report on Form 10-Q of MKS Instruments, Inc.;
2. Based on my knowledge, this quarterly 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 quarterly report;
3. Based on my knowledge, the financial statements, and other financial information included in this quarterly 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 quarterly report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and we have:
  - a) designed such disclosure controls and procedures 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 quarterly report is being prepared;
  - b) evaluated the effectiveness of the registrant's disclosure controls and procedures as of a date within 90 days prior to the filing date of this quarterly report (the "Evaluation Date"); and
  - c) presented in this quarterly report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
  - a) all significant deficiencies in the design or operation of internal controls which could adversely affect the registrant's ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and
  - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and
6. The registrant's other certifying officers and I have indicated in this quarterly report whether or not there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

Dated: November 13, 2002

/s/ John R. Bertucci

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

I, Ronald C. Weigner, certify that:

1. I have reviewed this quarterly report on Form 10-Q of MKS Instruments, Inc.;
2. Based on my knowledge, this quarterly 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 quarterly report;
3. Based on my knowledge, the financial statements, and other financial information included in this quarterly 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 quarterly report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and we have:
  - a) designed such disclosure controls and procedures 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 quarterly report is being prepared;
  - b) evaluated the effectiveness of the registrant's disclosure controls and procedures as of a date within 90 days prior to the filing date of this quarterly report (the "Evaluation Date"); and
  - c) presented in this quarterly report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
  - a) all significant deficiencies in the design or operation of internal controls which could adversely affect the registrant's ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and
  - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and
6. The registrant's other certifying officers and I have indicated in this quarterly report whether or not there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

Dated: November 13, 2002

/s/ Ronald C. Weigner

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

EXHIBIT INDEX

EXHIBIT NO.	EXHIBIT DESCRIPTION
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99.1	Statement Pursuant to 18 U.S.C [sec] 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
99.2	Statement Pursuant to 18 U.S.C [sec] 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

## MKS INSTRUMENTS, INC.

## SECOND RESTATED 1995 STOCK INCENTIVE PLAN

## 1. PURPOSE

The purpose of this Second Restated 1995 Stock Incentive Plan (the "Plan") of MKS Instruments, Inc., a Massachusetts corporation (the "Company"), is to advance the interests of the Company's stockholders by enhancing the Company's ability to attract, retain and motivate persons who make (or are expected to make) important contributions to the Company by providing such persons with equity ownership opportunities and performance-based incentives and thereby better aligning the interests of such persons with those of the Company's stockholders. Except where the context otherwise requires, the term "Company" shall include any present or future subsidiary corporations of MKS Instruments, Inc. as defined in Section 424(f) of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the "Code").

## 2. ELIGIBILITY

All of the Company's employees, officers, directors, consultants and advisors are eligible to be granted options, restricted stock, or other stock-based awards (each, an "Award") under the Plan. Any person who has been granted an Award under the Plan shall be deemed a "Participant."

## 3. ADMINISTRATION, DELEGATION

a. ADMINISTRATION BY BOARD OF DIRECTORS. The Plan will be administered by the Board of Directors of the Company (the "Board"). The Board shall have authority to grant Awards and to adopt, amend and repeal such administrative rules, guidelines and practices relating to the Plan as it shall deem advisable. The Board may correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award in the manner and to the extent it shall deem expedient to carry the Plan into effect and it shall be the sole and final judge of such expediency. All decisions by the Board shall be made in the Board's sole discretion and shall be final and binding on all persons having or claiming any interest in the Plan or in any Award. No director or person acting pursuant to the authority delegated by the Board shall be liable for any action or determination relating to or under the Plan made in good faith.

b. DELEGATION TO EXECUTIVE OFFICERS. To the extent permitted by applicable law, the Board may delegate to one or more executive officers of the Company, who are also members of the Board, if required by law, the power to make Awards and exercise such other powers under the Plan as the Board may determine, provided that the Board shall fix the maximum number of shares subject to Awards and the maximum number of shares for any one Participant to be made by such executive officers. The Chief Executive Officer of the Company may grant Awards to non-executive officer employees of the Company in amounts not to exceed 35,000 shares to any one employee.

c. APPOINTMENT OF COMMITTEES. To the extent permitted by applicable law, the Board may delegate any or all of its powers under the Plan to one or more committees or

subcommittees of the Board (a "Committee"). If and when the common stock, no par value per share, of the Company (the "Common Stock") is registered under the Securities Exchange Act of 1934 (the "Exchange Act"), the Board shall appoint one such Committee of not less than two members, each member of which shall be an "outside director" within the meaning of Section 162(m) of the Code and a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act." All references in the Plan to the "Board" shall mean the Board or a Committee of the Board or the executive officer referred to in Section 3(b) to the extent that the Board's powers or authority under the Plan have been delegated to such Committee or executive officer.

#### 4. STOCK AVAILABLE FOR AWARDS

a. NUMBER OF SHARES. Effective January 1, 2002 and subject to adjustment under Section 4(c), the number of shares of Common Stock available for Awards under the Plan: (i) shall annually increase by 5% of the total shares of the Company's outstanding Common Stock on January 1 of each year; and (ii) in the event of an increase in the total shares of the Company's Common Stock after January 1 of any such year in connection with the acquisition of any corporation, partnership or other business entity by the Company (whether by merger, stock purchase or otherwise), shall increase by 5% of such increased amount. Such increases shall occur until such time as the aggregate number of shares of Common Stock which may be issued under the Plan is 15,000,000 shares, subject to adjustment under Section 4(c)." If any Award expires or is terminated, surrendered or canceled without having been fully exercised or is forfeited in whole or in part or results in any Common Stock not being issued, the unused Common Stock covered by such Award shall again be available for the grant of Awards under the Plan, subject, however, in the case of Incentive Stock Options (as hereinafter defined), to any limitation required under the Code. Shares issued under the Plan may consist in whole or in part of authorized but unissued shares or treasury shares. All share amounts set forth in this plan reflect the 2,110-for-1 stock split approved by the Board of Directors of the Company on December 31, 1997 (the "1997 Stock Split").

b. PER-PARTICIPANT LIMIT. Subject to adjustment under Section 4(c), for Awards granted after the Common Stock is registered under the Exchange Act, the maximum number of shares with respect to which Awards may be granted to any Participant under the Plan shall be 1,350,000 per calendar year. The per-participant limit described in this Section 4(b) shall be construed and applied consistently with Section 162(m) of the Code.

c. ADJUSTMENT TO COMMON STOCK. In the event of any stock split, stock dividend, recapitalization, reclassification, reorganization, merger, consolidation, combination, exchange of shares, liquidation, spin-off or other similar change in capitalization or event, or any distribution to holders of Common Stock other than a normal cash dividend, (i) the number and class of securities available under this Plan, (ii) the number and class of security and exercise price per share subject to each outstanding Option, (iii) the repurchase price per security subject to each outstanding Restricted Stock Award, (iv) the per-Participant limit set forth in Section 4(b) and (v) the terms of each other outstanding stock-based Award shall be appropriately adjusted by the Company (or substituted Awards may be made, if applicable) to the extent the Board shall determine, in good faith, that such an adjustment (or substitution) is necessary and

appropriate. If this Section 4(c) applies and Section 8(e)(1) also applies to any event, Section 8(e)(1) shall be applicable to such event and this Section 4(c) shall not be applicable.

## 5. STOCK OPTIONS

a. GENERAL. The Board may grant options to purchase Common Stock (each, an "Option") and determine the number of shares of Common Stock to be covered by each Option, the exercise price of each Option and the conditions and limitations applicable to the exercise of each Option, including conditions relating to applicable federal or state securities laws, as it considers necessary or advisable. An Option which is not intended to be an Incentive Stock Option (as hereinafter defined) shall be designated a "Nonstatutory Stock Option."

b. INCENTIVE STOCK OPTIONS. An Option that the Board intends to be an "incentive stock option" as defined in Section 422 of the Code (an "Incentive Stock Option") shall only be granted to employees of the Company and shall be subject to and shall be construed consistently with the requirements of Section 422 of the Code. The Company shall have no liability to a Participant, or any other party, if an Option (or any part thereof) which is intended to be an Incentive Stock Option is not an Incentive Stock Option.

c. EXERCISE PRICE. The Board shall establish the exercise price at the time each Option is granted and specify it in the applicable option agreement.

d. DURATION OF OPTIONS. Each Option shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable option agreement. No Option will be granted for a term in excess of 10 years.

e. EXERCISE OF OPTION. Options may be exercised only by delivery to the Company of a written notice of exercise signed by the proper person together with payment in full as specified in Section 5(f) for the number of shares for which the Option is exercised.

f. PAYMENT UPON EXERCISE. Common Stock purchased upon the exercise of an Option granted under the Plan shall be paid for as follows:

i. in cash or by check, payable to the order of the Company;

ii. except as the Board may otherwise provide in an Option Agreement, delivery of an irrevocable and unconditional undertaking by a creditworthy broker to deliver promptly to the Company sufficient funds to pay the exercise price, delivery by the Participant to the Company of a copy of irrevocable and unconditional instructions to a creditworthy broker to deliver promptly to the Company cash or a check sufficient to pay the exercise price, or by delivery of shares of Common Stock owned by the Participant valued at the fair market value as determined by the Board in good faith ("Fair Market Value"), which Common Stock was owned by the Participant at least six months prior to such delivery;

iii. to the extent permitted by the Board and explicitly provided in an Option Agreement (i) by delivery of a promissory note of the Participant to the Company on terms determined by the Board, or (ii) by payment of such other lawful consideration as the Board may determine; or

iv. any combination of the above permitted forms of payment.

#### 6. RESTRICTED STOCK

a. GRANTS. The Board may grant Awards entitling recipients to acquire shares of Common Stock, subject to the right of the Company to repurchase all or part of such shares at their issue price or other stated or formula price (or to require forfeiture of such shares if issued at no cost) from the recipient in the event that conditions specified by the Board in the applicable Award are not satisfied prior to the end of the applicable restriction period or periods established by the Board for such Award (each, "Restricted Stock Award").

b. TERMS AND CONDITIONS. The Board shall determine the terms and conditions of any such Restricted Stock Award, including the conditions for repurchase (or forfeiture) and the issue price, if any. Any stock certificates issued in respect of a Restricted Stock Award shall be registered in the name of the Participant and, unless otherwise determined by the Board, deposited by the Participant, together with a stock power endorsed in blank, with the Company (or its designee). At the expiration of the applicable restriction periods, the Company (or such designee) shall deliver the certificates no longer subject to such restrictions to the Participant or if the Participant has died, to the beneficiary designated, in a manner determined by the Board, by a Participant to receive amounts due or exercise rights of the Participant in the event of the Participant's death (the "Designated Beneficiary"). In the absence of an effective designation by a Participant, Designated Beneficiary shall mean the Participant's estate.

#### 7. OTHER STOCK-BASED AWARDS

The Board shall have the right to grant other Awards based upon the Common Stock, having such terms and conditions as the Board may determine including the grant of shares based upon certain conditions, the grant of securities convertible into Common Stock and the grant of stock appreciation rights.

#### 8. GENERAL PROVISIONS APPLICABLE TO AWARDS

a. TRANSFERABILITY OF AWARDS. Except as the Board may otherwise determine or provide in an Award, Awards shall not be sold, assigned, transferred, pledged or otherwise encumbered by the person to whom they are granted, either voluntarily or by operation of law, except by will or the laws of descent and distribution, and, during the life of the Participant, shall be exercisable only by the Participant. References to a Participant, to the extent relevant in the context, shall include references to authorized transferees.

b. DOCUMENTATION. Each Award under the Plan shall be evidenced by a written instrument in such form as the Board shall determine. Each Award may contain terms and conditions in addition to those set forth in the Plan.

c. BOARD DISCRETION. Except as otherwise provided by the Plan, each type of Award may be made alone or in addition or in relation to any other type of Award. The terms of each type of Award need not be identical, and the Board need not treat Participants uniformly.

d. TERMINATION OF STATUS. The Board shall determine the effect on an Award of the disability, death, retirement, authorized leave of absence or other change in the employment or other status of a Participant and the extent to which, and the period during which, the Participant, the Participant's legal representative, conservator, guardian or Designated Beneficiary may exercise rights under the Award.

e. ACQUISITION EVENTS

(1) CONSEQUENCES OF ACQUISITION EVENTS. Upon the occurrence of an Acquisition Event (as defined below), or the execution by the Company of any agreement with respect to an Acquisition Event, the Board shall take any one or more of the following actions with respect to then outstanding Awards: (i) provide that outstanding Options shall be assumed, or equivalent Options shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), provided that any such Options substituted for Incentive Stock Options shall satisfy, in the determination of the Board, the requirements of Section 424(a) of the Code; (ii) if the acquisition or succeeding corporation refuses or is unable to assume outstanding Options or grant Options in substitution therefor pursuant to clause (i), upon written notice to the Participants, provide that all then unexercised Options will become exercisable in full as of a specified time (the "Acceleration Time") prior to the Acquisition Event and will terminate immediately prior to the consummation of such Acquisition Event, except to the extent exercised by the Participants between the Acceleration Time and the consummation of such Acquisition Event; (iii) in the event of an Acquisition Event under the terms of which holders of Common Stock will receive upon consummation thereof a cash payment for each share of Common Stock surrendered pursuant to such Acquisition Event (the "Acquisition Price"), provide that all outstanding Options shall terminate upon consummation of such Acquisition Event and each Participant shall receive, in exchange therefor, a cash payment equal to the amount (if any) by which (A) the Acquisition Price multiplied by the number of shares of Common Stock subject to such outstanding Options (whether or not then exercisable), exceeds (B) the aggregate exercise price of such Options; (iv) provide that all Restricted Stock Awards then outstanding shall become free of all restrictions prior to the consummation of the Acquisition Event; and (v) provide that any other stock-based Awards outstanding (A) shall become exercisable, realizable or vested in full, or shall be free of all conditions or restrictions, as applicable to each such Award, prior to the consummation of the Acquisition Event, or (B), if applicable, shall be assumed, or equivalent Awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof).

An "Acquisition Event" shall mean: (a) any merger or consolidation which results in the voting securities of the Company outstanding immediately prior thereto representing immediately thereafter (either by remaining outstanding or by being converted into voting securities of the surviving or acquiring entity) less than 50% of the combined voting power of the voting securities of the Company or such surviving or acquiring entity outstanding immediately after such merger or consolidation; (b) any sale of all or substantially all of the assets of the Company; or (c) the complete liquidation of the Company.

(2) ASSUMPTION OF OPTIONS UPON CERTAIN EVENTS. The Board may grant Awards under the Plan in substitution for stock and stock-based awards held by employees of another corporation who become employees of the Company as a result of a

merger or consolidation of the employing corporation with the Company or the acquisition by the Company of property or stock of the employing corporation. The substitute Awards shall be granted on such terms and conditions as the Board considers appropriate in the circumstances.

f. WITHHOLDING. Each Participant shall pay to the Company, or make provision satisfactory to the Board for payment of, any taxes required by law to be withheld in connection with Awards to such Participant no later than the date of the event creating the tax liability. The Board may allow Participants to satisfy such tax obligations in whole or in part in shares of Common Stock, including shares retained from the Award creating the tax obligation, valued at their Fair Market Value; provided, however, that the total tax withholding where stock is being used to satisfy such tax obligations cannot exceed the Company's minimum statutory withholding obligations (based on minimum statutory withholding rates for federal and state tax purposes, including payroll taxes, that are applicable to such supplemental taxable income). The Company may, to the extent permitted by law, deduct any such tax obligations from any payment of any kind otherwise due to a Participant.

g. AMENDMENT OF AWARD. The Board may amend, modify or terminate any outstanding Award, including but not limited to, substituting therefor another Award of the same or a different type, changing the date of exercise or realization, and converting an Incentive Stock Option to a Nonstatutory Stock Option, provided that the Participant's consent to such action shall be required unless the Board determines that the action, taking into account any related action, would not materially and adversely affect the Participant.

h. CONDITIONS ON DELIVERY OF STOCK. The Company will not be obligated to deliver any shares of Common Stock pursuant to the Plan or to remove restrictions from shares previously delivered under the Plan until (i) all conditions of the Award have been met or removed to the satisfaction of the Company, (ii) in the opinion of the Company's counsel, all other legal matters in connection with the issuance and delivery of such shares have been satisfied, including any applicable securities laws and any applicable stock exchange or stock market rules and regulations, and (iii) the Participant has executed and delivered to the Company such representations or agreements as the Company may consider appropriate to satisfy the requirements of any applicable laws, rules or regulations.

i. ACCELERATION. The Board may at any time provide that any Options shall become immediately exercisable in full or in part, that any Restricted Stock Awards shall be free of all restrictions or that any other stock-based Awards may become exercisable in full or in part or free of some or all restrictions or conditions, or otherwise realizable in full or in part, as the case may be.

## 9. MISCELLANEOUS

a. NO RIGHT TO EMPLOYMENT OR OTHER STATUS. No person shall have any claim or right to be granted an Award, and the grant of an Award shall not be construed as giving a Participant the right to continued employment or any other relationship with the Company. The Company expressly reserves the right at any time to dismiss or otherwise terminate its relationship with a Participant free from any liability or claim under the Plan, except as expressly provided in the applicable Award.

b. NO RIGHTS AS STOCKHOLDER. Subject to the provisions of the applicable Award, no Participant or Designated Beneficiary shall have any rights as a stockholder with respect to any shares of Common Stock to be distributed with respect to an Award until becoming the record holder of such shares.

c. EFFECTIVE DATE AND TERM OF PLAN. The Plan shall become effective on the date on which it is adopted by the Board, but no Award granted to a Participant designated as subject to Section 162(m) by the Board shall become exercisable, vested or realizable, as applicable to such Award, unless and until the Plan has been approved by the Company's stockholders. No Awards shall be granted under the Plan after the completion of ten years from the earlier of (i) the date on which the Plan was adopted by the Board or (ii) the date the Plan was approved by the Company's stockholders, but Awards previously granted may extend beyond that date.

d. AMENDMENT OF PLAN. The Board may amend, suspend or terminate the Plan or any portion thereof at any time, provided that no Award granted to a Participant designated as subject to Section 162(m) by the Board after the date of such amendment shall become exercisable, realizable or vested, as applicable to such Award (to the extent that such amendment to the Plan was required to grant such Award to a particular Participant), unless and until such amendment shall have been approved by the Company's stockholders.

e. STOCKHOLDER APPROVAL. For purposes of this Plan, stockholder approval shall mean approval by a vote of the stockholders in accordance with the requirements of Section 162(m) of the Code.

f. GOVERNING LAW. The provisions of the Plan and all Awards made hereunder shall be governed by and interpreted in accordance with the laws of The Commonwealth of Massachusetts, without regard to any applicable conflicts of law rules or provisions.

Adopted by the Board of Directors on  
November 30, 1995

Approved by the Stockholders on May  
17, 1996

Amended and Restated by the Board of  
Directors on December 31, 1997

Amended and Restated by the  
Stockholders on January 9, 1998

Amended and Restated by the Board of  
Directors on August 1, 2002

CERTIFICATION 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 September 30, 2002 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, John R. Bertucci, Chairman, Chief Executive Officer and President of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) 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.

Dated: November 13, 2002

/s/ John R. Bertucci

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John R. Bertucci  
Chairman, Chief Executive Officer and President

CERTIFICATION 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 September 30, 2002 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Ronald C. Weigner, Vice President and Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) 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.

Dated: November 13, 2002

/s/ Ronald C. Weigner

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Ronald C. Weigner  
Vice President and Chief Financial Officer