SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 10-Q

(MARK ONE)

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

For the quarterly period ended June 30, 2001

or

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

For the transition period from _______________ to _______________

Commission file number 0-23621

MKS INSTRUMENTS, INC.

(Exact name of registrant as specified in its charter)

Massachusetts	04-2277512
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
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 July 31, 2001: 37,791,955

MKS INSTRUMENTS, INC.
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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

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

	JUNE 30, 2001	DECEMBER 31, 2000
	(Unaudited)	(Note 1)
ASSETS		
Current assets:		
Cash and cash equivalents	$ 116,035	$ 123,082
Short-term investments	8,014	17,904
Trade accounts receivable, net	61,187	95,076
Inventories	76,275	69,165
Deferred tax asset	7,360	9,976
Other current assets	6,035	4,433
Total current assets	274,906	319,636
Property, plant and equipment, net	72,928	64,133
Goodwill and acquired intangible assets, net	58,525	45,325
Long-term investments	17,429	17,100
Other assets	17,764	8,209
Total assets	$ 441,552	$ 454,403
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Short-term borrowings	$ 15,588	$ 15,741
Current portion of long-term debt	1,374	2,783
Current portion of capital lease obligations	549	610
Accounts payable	14,072	23,653
Accrued compensation	6,821	17,003
Other accrued expenses	12,840	14,588
Income taxes payable	---	7,937
Total current liabilities	51,244	82,315
Long-term debt	12,296	11,439
Long-term portion of capital lease obligations	588	947
Deferred tax liability	3,365	1,663
Other liabilities	1,479	517
Commitments and contingencies		
Stockholders' equity:		
Preferred Stock, $0.01 par value, 2,000,000 shares authorized; none issued and outstanding	---	---
Common Stock, no par value, 75,000,000 shares authorized; 37,766,994 and 36,645,665 issued and outstanding at June 30, 2001 and December 31, 2000, respectively	113	113
Additional paid-in capital	279,766	263,723
Retained earnings	92,916	93,235
Accumulated other comprehensive income (loss)	(215)	451
Total stockholders' equity	372,580	357,522
Total liabilities and stockholders' equity	$ 441,552	$ 454,403

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

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

	Three Months Ended June 30		Six Months Ended June 30	
	2001	2000 (Note 1)	2001	2000 (Note 1)
Net sales	$ 72,656	$ 108,767	$ 183,544	$ 204,925
Cost of sales	46,838	59,786	114,531	114,719
Gross profit	25,818	48,981	69,013	90,206
Research and development	9,453	9,118	20,604	16,241
Selling, general and administrative	17,576	16,837	36,633	32,057
Amortization of goodwill and acquired intangible assets	2,745	749	4,985	1,127
Goodwill impairment charge	---	---	3,720	---
Merger expenses	---	---	7,708	---
Purchase of in-process research and development	2,340	---	2,340	---
Income (loss) from operations	(6,296)	22,277	(6,977)	40,781
Interest expense	371	421	773	850
Interest income	1,380	1,329	3,174	2,540
Other income (expense), net	---	(308)	---	(317)
Income (loss) before income taxes	(5,287)	22,877	(4,576)	42,154
Provision for income taxes (benefit)	(1,105)	8,428	1,711	15,746
Net income (loss)	$ (4,182)	$ 14,449	$ (6,287)	$ 26,408
Historical net income (loss) per share:				
Basic	$ (0.11)	$ 0.43	$ (0.17)	$ 0.78
Diluted	$ (0.11)	$ 0.41	$ (0.17)	$ 0.74
Historical weighted average common shares outstanding:				
Basic	37,475	34,000	37,172	33,809
Diluted	37,475	35,607	37,172	35,469

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

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

	Six Months Ended June 30, 2001	Six Months Ended June 30, 2000 (Note 1)
Cash flows from operating activities:		
Net income (loss)	$ (6,287)	$ 26,408
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Depreciation and amortization	10,552	6,074
Goodwill impairment charge	3,720	---
Purchase of in-process research and development	2,340	---
Other	21	(797)
Changes in operating assets and liabilities net of effects of businesses acquired:		
Trade accounts receivable	36,390	(17,231)
Inventories	2,109	(13,413)
Other current assets	(1,916)	(2,206)
Accrued expenses and other current liabilities	(22,281)	3,870
Accounts payable	(9,818)	5,777
Net cash provided by operating activities	14,830	8,482
Cash flows from investing activities:		
Proceeds from (purchases of) investments	1,072	(6,671)
Purchases of property, plant and equipment	(9,539)	(6,372)
(Increase) decrease in other assets	(2,413)	106
Purchases of companies, net of cash acquired	(6,991)	(6,960)
Net cash used in investing activities	(17,871)	(19,897)
Cash flows from financing activities:		
Proceeds from short-term borrowings	21,647	12,009
Payments on short-term borrowings	(24,382)	(7,881)
Proceeds from long-term debt	833	---
Principal payments on long-term debt	(1,371)	(1,026)
Proceeds from exercise of stock options	3,248	4,014
Principal payments under capital lease obligations	(409)	(608)
Net cash provided by (used in) financing activities	(434)	6,508
Effect of exchange rate changes on cash and cash equivalents	(430)	(469)
Decrease in cash and cash equivalents	(3,905)	(5,376)
Cash and cash equivalents at beginning of period	123,082	67,489
Effect of excluded results of ASTeX (Note 1)	(3,142)	---
Cash and cash equivalents at end of period	$ 116,035	$ 62,113
Supplemental disclosure of cash flow information:		
Cash paid during the period for:		
Interest	$ 651	$ 536
Income taxes	$ 12,092	$ 15,259
Noncash transactions during the period:		
Stock and options issued for acquisitions	$ 12,110	$ 8,433

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 June 30, 2001 and for the three and six months ended June 30, 2001 and 2000 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 presentation of the results for the interim periods. The terms "MKS" and the "Company" refer to MKS Instruments, Inc. and subsidiaries, including Applied Science and Technology, Inc. ("ASTeX"). 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, 2000 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 2, 2001 and the MKS Current Reports on Form 8-K filed with the Securities and Exchange Commission on April 20, 2001.

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 terms of the agreement, each outstanding share of ASTeX common stock was exchanged for 0.7669 newly issued shares of common stock of MKS Instruments, Inc., resulting in the issuance of approximately 11.2 million shares of common stock of MKS Instruments, Inc., representing approximately 30% of its then outstanding shares. There were no material adjustments required to conform the accounting policies of the two companies. The unaudited financial statements for the three months and six months ended June 30, 2000 combine the historical financial statements of MKS Instruments, Inc. for the three months and six months ended June 30, 2000 with the historical financial statements of ASTeX for the three months and six months ended December 25, 1999. The following table presents details of the results of operations for the separate companies.

	MKS Instruments, Inc. Three months ended June 30, 2000	ASTeX Three months ended December 25, 1999	COMBINED
Net sales	$77,701	$31,066	$108,767
Net income	$11,286	$ 3,163	$ 14,449

	MKS Instruments, Inc. Six months ended June 30, 2000	ASTeX Six months ended December 25, 1999	COMBINED
Net sales	$143,257	$61,668	$204,925
Net income	$ 20,617	$ 5,791	$ 26,408

The December 31, 2000 Balance Sheet combines the balance sheet of MKS Instruments, Inc. as of December 31, 2000 with the balance sheet of ASTeX as of July 1, 2000.

As a result of conforming dissimilar fiscal year-ends, the ASTeX results of operations for the six-month period ended December 31, 2000 are excluded from the consolidated financial statements of MKS for the year ended December 31, 2000. The following is information related to the ASTeX financial results for the six-month period ended December 31, 2000:

Net sales	$ 89,193
Net income	5,968
Net cash used by operating activities	(3,500)
Net cash provided by investing activities	245
Net cash provided by financing activities	43

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

Included in stockholders' equity at June 30, 2001 is a $5,968,000 adjustment resulting from conforming the two companies' dissimilar year ends, which represents the ASTeX results of operations for the six-month period ended December 31, 2000.

2) USE OF ESTIMATES

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

3) RECENT ACCOUNTING PRONOUNCEMENTS

In July 2001, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards No. 141 ("SFAS 141"), "Business Combinations." SFAS 141 requires the purchase method of accounting for business combinations initiated after June 30, 2001 and eliminates the pooling of interests method.

In July 2001, the FASB issued Statement of Financial Accounting Standards No. 142 ("SFAS 142"), "Goodwill and Other Intangible Assets", which is effective for MKS on January 1, 2002. SFAS 142 requires, among other things, the discontinuance of goodwill amortization and includes provisions for the reclassification of certain existing recognized intangibles as goodwill, reassessment of the useful lives of existing recognized intangibles, and reclassification of certain intangibles out of previously reported goodwill. SFAS 142 also requires the Company to complete a transitional goodwill impairment test six months from the date of adoption. As a result of implementing SFAS 142, the Company expects to stop amortizing goodwill effective January 1, 2002 but will continue to amortize other intangible assets. The Company is currently reviewing the potential additional impact of SFAS 142 on its financial position and results of operations.

4) CASH AND CASH EQUIVALENTS AND INVESTMENTS

Cash equivalents consist of the following:

	June 30, 2001	December 31, 2000
Cash and Money Market Instruments	$ 44,914	$ 36,687
Commercial Paper	20,946	74,895
Federal Government and Government Agency Obligations ...	2,000	1,000
State and Municipal Government Obligations	38,175	2,000
Corporate Obligations	10,000	8,500
	$116,035	$123,082

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

	June 30, 2001	December 31, 2000
Federal Government and Government Agency Obligations ...	$ 602	$10,101
State and Municipal Government Obligations	7,412	---
Corporate Obligations	---	1,000
Commercial Paper	---	6,803
	$ 8,014	$17,904

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

Long-term available-for-sale investments maturing within two years consist of the following:

	June 30, 2001	December 31, 2000
Federal Government and Government Agency Obligations ..	$ 4,000	$ 4,000
State and Municipal Government Obligations	13,429	13,100
	$17,429	$17,100

5) NET INCOME (LOSS) PER SHARE

The following is a reconciliation of basic to diluted net income (loss) per share:

	Three Months Ended June 30, 2001	2000
Net income (loss)	$ (4,182)	$14,449
Shares used in net income per common share - basic	37,475	34,000
Effect of dilutive securities:		
Employee and director stock options	---	1,607
Shares used in net income per common share - diluted ...	37,475	35,607
Net income (loss) per common share - basic	$ (0.11)	$ 0.43
Net income (loss) per common share - diluted	$ (0.11)	$ 0.41

	Six Months Ended June 30, 2001	2000
Net income (loss)	$ (6,287)	$26,408
Shares used in net income per common share - basic	37,172	33,809
Effect of dilutive securities:		
Employee and director stock options	---	1,660
Shares used in net income per common share - diluted ...	37,172	35,469
Net income (loss) per common share - basic	$ (0.17)	$ 0.78
Net income (loss) per common share - diluted	$ (0.17)	$ 0.74

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. Options to purchase 109,000 and 76,000 shares of common stock which were outstanding during the three and six months ended June 30, 2000, respectively, were not included in the calculation of diluted net income per common share because the option price was greater than the average market price of the common shares during the period. All options outstanding during the three and six months ended June 30, 2001 are excluded from the calculation of diluted net income per common share because their inclusion would be anti-dilutive. There were options to purchase approximately 5,168,000 shares of the Company's common stock outstanding as of June 30, 2001.

6) INVENTORIES

Inventories consist of the following:

June 30, December 31,

	2001	2000
Raw material	$26,962	$23,765
Work in process	22,322	20,856
Finished goods	26,991	24,544
	$76,275	$69,165

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

7) STOCKHOLDERS' EQUITY

Total comprehensive income (loss) was as follows:

	Three Months Ended June 30, 2001	2000
Net income (loss)	$(4,182)	$ 14,449
Other comprehensive loss, net of taxes:		
Changes in value of financial instruments designated as hedges of currency and interest rate exposures	(145)	121
Foreign currency translation adjustment	(359)	(273)
Unrealized loss on investments	(1)	(108)
Other comprehensive loss, net of taxes	(505)	(260)
Total comprehensive income (loss)	$(4,687)	$ 14,189

	Six Months Ended June 30, 2001	2000
Net income (loss)	$(6,287)	$ 26,408
Other comprehensive loss, net of taxes:		
Changes in value of financial instruments designated as hedges of currency and interest rate exposures	613	313
Foreign currency translation adjustment	(965)	(374)
Unrealized loss on investments	(314)	(210)
Other comprehensive loss, net of taxes	(666)	(271)
Total comprehensive income (loss)	$(6,953)	$ 26,137

8) SEGMENT INFORMATION AND SIGNIFICANT CUSTOMER

Segment information for the three months ended June 30, 2001 and 2000 was as follows:

		NORTH AMERICA	FAR EAST	EUROPE	TOTAL
Net sales to unaffiliated customers	2001	$49,064	$12,440	$11,152	$72,656
	2000	83,105	16,143	9,519	108,767
Intersegment net sales	2001	10,015	358	323	10,696
	2000	14,614	278	282	15,174
Income (loss) from operations	2001	(9,770)	1,462	2,012	(6,296)
	2000	19,794	1,007	1,476	22,277

Segment information for the six months ended June 30, 2001 and 2000 was as follows:

		NORTH AMERICA	FAR EAST	EUROPE	TOTAL
Net sales to unaffiliated customers	2001	$130,196	$29,803	$23,545	$183,544
	2000	157,432	30,120	17,373	204,925
Intersegment net sales	2001	28,407	688	715	29,810
	2000	29,536	649	619	30,804
Income (loss) from operations	2001	(14,782)	3,347	4,458	(6,977)

2000	35,893	2,370	2,518	40,781

(Tables in thousands, except per share data)

The Company had one customer comprising 16% and 32% of net sales for the three months ended June 30, 2001 and 2000, respectively, and 20% and 33% for the six months ended June 30, 2001 and 2000, respectively.

9) ACQUISITIONS

On April 27, 2001 (the effective date of purchase), MKS completed its acquisition of On-Line Technologies, Inc. ("On-Line"), a supplier of measurement and control products used for gas analysis, wafer metrology and process control. The acquisition has been accounted for under the purchase method of accounting. The purchase price was approximately $23,829,000 and consisted of approximately 660,000 shares of MKS common stock valued at approximately $12,110,000, cash payments of $6,295,000, assumption of On-Line debt of approximately $4,728,000 and transaction expenses of approximately $696,000. The purchase price was allocated to the assets acquired based upon their estimated fair values and resulted in an allocation of approximately $16,050,000 to goodwill. The results of operations are included in the Company's consolidated statement of income (loss) as of and since the effective date of the purchase. The allocation of the purchase price was as follows:

Fair value of tangible assets and liabilities assumed ...	$ (971)
In-process research and development	2,340
Current technology	4,710
Other intangibles	1,700
Goodwill	16,050
	$ 23,829

The amounts allocated to current technology, other intangibles, and goodwill are being amortized using the straight-line method over their respective estimated useful lives, which range from 5 to 7 years.

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 in-process research and development ("IPR&D") of various projects for the development of new products and technologies at approximately $2,340,000. Because the technological feasibility of products under development had not been established and no future alternative uses existed, the purchased IPR&D was written off 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. As of June 30, 2001, the actual development timelines and costs were in line with management's estimates.

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.

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 On-Line acquisition had occurred at the beginning of each period.

	Three months ended June 30,		Six months ended June 30,	
	2001	2000	2001	2000
Net sales	$ 73,689	$109,846	$ 184,764	$208,956
Net income (loss)	$ (2,260)	$ 14,474	$ (5,898)	$ 25,808
Net income (loss) per share:				
Basic	$ (0.06)	$ 0.42	$ (0.16)	$ 0.75
Diluted	$ (0.06)	$ 0.40	$ (0.16)	$ 0.71

The unaudited pro forma results for the six months ended June 30, 2001 exclude approximately $6.4 million of non-recurring charges directly related to the transaction that were incurred by On-Line prior to the date of the acquisition. Additionally, the charge for purchased IPR&D was not included in the unaudited pro forma results, because it was non-recurring and directly related to the transaction.

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 acquisition occurred at the beginning of the period, or which may result in the future.

10) GOODWILL IMPAIRMENT CHARGE

In August 1999, ASTeX purchased Shamrock product group for approximately $6.4 million in cash. The costs of the acquisition were allocated on the basis of the estimated fair market value of the assets acquired at that time, and resulted in an allocation of $4,463,000 to goodwill.

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 has been unsuccessful in selling any systems of the product line since the acquisition and, with the expiration of the significant quote in March 2001, believes that future Shamrock system sales will not be sufficient to recover the carrying value of the goodwill. Additionally, the Company has no current plans for future development of new system designs. Consequently, the Company believed that the carrying amount of the Shamrock related goodwill was impaired. To measure the impairment, the Company performed a cash flow analysis for the product group and determined that the estimated future cash flows of the group would be insignificant. As a result, the Company wrote-off the carrying value of the related goodwill of approximately $3,720,000 in the quarter ended March 31, 2001.

11) 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.
MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION
AND RESULTS OF OPERATIONS

ITEM 2.

This Quarterly Report on Form 10-Q contains a number of statements, including, without limitation, statements relating to MKS's beliefs, expectations and plans which are forward-looking statements, as are statements that certain actions, conditions or circumstances will continue. Such statements are based upon management's current expectations and are subject to a number of factors and uncertainties. Information contained in these forward-looking statements is inherently uncertain and actual performance and results may differ materially due to many important factors. See "Factors That May Affect Future Results" for some, but not all, factors that could cause actual results to differ materially from any forward-looking statements made by MKS. The terms "MKS", the "Company", "we", "us" and "our" refer to MKS Instruments, Inc. and its subsidiaries, including Applied Science and Technology, Inc. ("ASTeX").

On January 26, 2001 MKS completed its acquisition of ASTeX in a transaction accounted for under the pooling of interests method of accounting. Because the fiscal years for MKS and ASTeX differ, the periods combined for the purposes of the consolidated financial statements for the three and six months ended June 30, 2000 were as follows:

MKS	ASTEX
Three and six months ended June 30, 2000	Three and six months ended December 25, 1999

On April 27, 2001 (the effective date of purchase) MKS completed its acquisition of On-Line Technologies, Inc. ("On-Line"), a supplier of measurement and control products used for gas analysis, wafer metrology and process control. The acquisition has been accounted for under the purchase method of accounting. The purchase price was approximately $23,829,000 and consisted of approximately 660,000 shares of MKS common stock valued at approximately $12,110,000, cash payments of $6,295,000, assumption of On-Line debt of approximately $4,728,000 and transaction expenses of approximately $696,000. Accordingly, the estimated fair value of assets acquired and liabilities assumed were included in the Company's consolidated balance sheet as of the effective date of the purchase. The results of operations are included in the Company's consolidated statement of income (loss) as of and since the effective date of the purchase.

MKS develops, manufactures and supplies gas measurement, control and analysis products, reactive gas generator and power delivery products used in semiconductor manufacturing and other advanced thin-film manufacturing processes. We estimate that during 2000 approximately 76% of our net sales were to semiconductor capital equipment manufacturers and semiconductor device manufacturers. The following table sets forth for the periods indicated the percentage of total net sales of certain line items included in MKS's consolidated statement of income data.

	Three months ended June 30,		Six months ended June 30,	
	2001	2000	2001	2000
Net sales	100.0%	100.0%	100.0%	100.0%
Cost of sales	64.5	55.0	62.4	56.0
Gross profit	35.5	45.0	37.6	44.0
Research and development	13.0	8.4	11.2	7.9
Selling, general and administrative	24.2	15.5	20.0	15.6
Amortization of goodwill and acquired intangible assets	3.8	0.6	2.7	0.6
Goodwill impairment charge	---	---	2.0	---
Merger expenses	---	---	4.2	---
In-process research and development	3.2	---	1.3	---
Income (loss) from operations	(8.7)	20.5	(3.8)	19.9
Interest income, net	1.4	0.8	1.3	0.8
Other income, net	---	(0.3)	---	(0.1)
Income (loss) before income taxes	(7.3)	21.0	(2.5)	20.6
Provision (benefit) for income taxes	(1.5)	7.7	0.9	7.7
Net income (loss)	(5.8)%	13.3%	(3.4)%	12.9%

Results of Operations

Net Sales. Net sales decreased 33.2% to $72.7 million for the three months ended June 30, 2001 from $108.8 million for the three months ended June 30, 2000. International net sales were approximately $23.6 million for the three months ended June 30, 2001 or 32.5% of net sales and $25.7 million for the same period of 2000 or 23.6% of net sales. Net sales decreased 10.4% to $183.5 million for the six months ended June 30, 2001 from $204.9 million for the same period of 2000. International net sales were approximately $53.3 million for the six months ended June 30, 2001 or 29.1% of net sales and $47.5 million for the same period of 2000 or 23.2% of net sales. The decrease in net sales is due to a worldwide slowdown in demand for semiconductors during 2001 which resulted in a decline in demand for the Company's products from the Company's semiconductor capital equipment manufacturers and semiconductor device manufacturer customers.

Gross Profit. Gross profit as a percentage of net sales decreased to 35.5% for the three months ended June 30, 2001 from 45.0% for the three months ended June 30, 2000. Gross profit as a percentage of net sales decreased to 37.6% for the six months ended June 30, 2001 from 44.0% for the same period of 2000. The decrease was primarily due to lower absorption of manufacturing overhead costs. Additionally, gross margins were negatively effected by a $2.6 million write-off of obsolete and excess inventory in the second quarter of 2001. This write-off was significantly higher than normal and was primarily caused by a significant reduction in demand, including reduced demand for older technology products.

Research and Development. Research and development expense increased 3.7% to $9.5 million or 13.0% of net sales for the three months ended June 30, 2001 from $9.1 million or 8.4% of net sales for the three months ended June 30, 2000. The increase was primarily due to increased compensation expense. Research and development expense increased 26.9% to $20.6 million or 11.2% of net sales for the six months ended June 30, 2001 from $16.2 million or 7.9% of net sales for the same period of 2000. The increase was primarily due to increased compensation expense.

Selling, General and Administrative. Selling, general and administrative expenses increased 4.4% to $17.6 million or 24.2% of net sales for the three months ended June 30, 2001 from $16.8 million or 15.5% of net sales for the three months ended June 30, 2000. The increase was due primarily to increased professional fees. Selling, general and administrative expenses increased 14.3% to $36.6 million or 20.0% of net sales for the six months ended June 30, 2001 from $32.1 million or 15.6% of net sales for the same period of 2000. The increase was due primarily to increased professional fees of $2.0 million, compensation expense of $1.0 million related to the earnout from the Spectra acquisition, and other selling, general, and administrative expenses.

Amortization of Goodwill and Acquired Intangible Assets. Amortization of goodwill and acquired intangible assets of $2.7 million and $5.0 million for the three and six months ended June 30, 2001, respectively, represents the amortization of goodwill and other intangibles resulting from the acquisitions completed by MKS.

Goodwill Impairment Charge. In August 1999, ASTeX purchased the Shamrock product group for approximately $6.4 million in cash. The costs of the acquisition were allocated on the basis of the estimated fair market value of the assets acquired at that time, and resulted in an allocation of $4,463,000 to goodwill.

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 has been unsuccessful in selling any systems of the product line since the acquisition and, with the expiration of the significant quote in March 2001, believes that future Shamrock system sales will not be sufficient to recover the carrying value of the goodwill. Additionally, the Company has no current plans for future development of new system designs. Consequently, the Company believed that the carrying amount of the Shamrock related goodwill was impaired. To measure the impairment, the Company performed a cash flow analysis for the product group and determined that the estimated future cash flows of the group would be insignificant. As a result, the Company wrote-off the carrying value of the related goodwill of approximately $3,720,000 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 six 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, $0.8 million of regulatory and other costs.

Purchase of In-process Technology. 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 projects 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. 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 three months ended June 30, 2001.

Interest Income (Expense), Net. During the three and six months ended June 30, 2001, the Company generated net interest income of $1.0 million and $2.4 million, respectively, primarily from the invested net proceeds of its common stock offerings, offset by interest expense on outstanding debt.

Provision for Income Taxes. The effective tax rates for the three and six months ended June 30, 2001 were 21.0% and 37.4%, respectively, resulting in an income tax benefit of $1.1 million and income expense of $1.7 million, respectively. The changes in effective tax rates for the three and six months ended June 30, 2001 as compared to the effective tax rates for the three and six months ended June 30, 2000 were primarily due to non-deductible charges associated with acquisitions made in 2001.

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. On April 5, 1999, MKS completed the initial public offering of its Common Stock. In connection with this offering and the exercise of an over-allotment option by the underwriters, MKS sold 6,375,000 shares of Common Stock at a price of $14.00 per share. The net proceeds to MKS were approximately $82,000,000 and were received in the second quarter of 1999. Underwriting discounts and commissions were approximately $6,200,000, and other offering costs were approximately $1,000,000. On April 5, 1999, MKS distributed $40,000,000, which was the estimated amount of its undistributed S Corporation earnings as of the day prior to the closing of the offering.

On March 30, 2000, ASTeX completed the registration and sale of 1,917,250 shares of common stock at $40.42 per share. The net proceeds from the offering were approximately $73.2 million.

On March 5, 1999, ASTeX completed the registration and sale of 1,533,800 shares of common stock at $14.34 per share. On April 6, 1999, the underwriters exercised their over-allotment option to purchase an additional 230,070 shares of common stock. The net proceeds from the offering were approximately $23.8 million.

In 1998, ASTeX announced that it had met the requirements for the redemption of redeemable warrants issued in connection with the ASTeX initial public offering and called the warrants for redemption. 2,082,451 redeemable warrants and 133,088 underwriter warrants were converted into 1,297,147 shares of common stock. The net proceeds were $15,234,000.

Working capital was $223.7 million as of June 30, 2001, a decrease of $13.6 million from December 31, 2000. Operations provided cash of $14.8 million for the six months ended June 30, 2001. This cash flow was impacted by the net loss, depreciation and amortization, the goodwill impairment charge and changes in the levels of accounts payable, accrued expenses, and accounts receivable. Investing activities utilized cash of $17.9 million for the six months ended June 30, 2001 primarily from the purchases of On-Line and property, plant, and equipment. Financing activities utilized cash of $0.4 million, primarily from payments on short-term borrowings offset by proceeds from employees exercising stock options.

The Company 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's 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 76% of its sales in 2000 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 the first and second quarters of 2001, MKS 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. 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 current and 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 has experienced a significant downturn during 2001. As a result, MKS experienced a reduction in demand from OEM customers in the first and second quarters of 2001, which had a material adverse effect on MKS' operating results. 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' five largest customers accounted for approximately 45% of its net sales in 2000, 39% of its net sales in 1999 and 34% of its net sales in 1998. 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 2000 and 1999, one customer, Applied Materials, accounted for approximately 30% and 29%, respectively, of MKS' net sales. MKS' purchase contract with Applied Materials expires in 2004. 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's 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 ("Compact Instrument") in March 2000, Telvac Engineering, Ltd. ("Telvac") in May 2000, Spectra Instruments, Inc. ("Spectra") in July 2000, D.I.P., Inc. ("D.I.P.") in September 2000, ASTeX in January 2001 and On-Line in April 2001. 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 and On-Line 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 23% of net sales in 2000, 25% of net sales in 1999 and 21% of net sales in 1998.

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.

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.

COMPETITION FOR PERSONNEL IN THE SEMICONDUCTOR AND INDUSTRIAL MANUFACTURING INDUSTRIES IS INTENSE.

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. Competition for such personnel is intense, and 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 June 30, 2001, MKS owned 125 U.S. patents and 62 foreign patents and had 52 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 30, 2000, ASTeX brought suit in federal district court in Delaware against Advanced Energy Industries, Inc. for infringement of ASTeX's patent related to its Astron 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'S DEPENDENCE ON SOLE AND LIMITED SOURCE SUPPLIERS COULD AFFECT ITS ABILITY TO MANUFACTURE PRODUCTS AND SYSTEMS.

MKS relies on sole and limited source suppliers for a few of its components and subassemblies that are critical to the manufacturing of MKS's 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's growth and development of new systems.

MKS believes that in time MKS could obtain and qualify alternative sources for most sole and limited source 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.

ONE STOCKHOLDER, ALONG WITH MEMBERS OF HIS FAMILY, CONTINUES TO HAVE A SUBSTANTIAL INTEREST IN MKS.

As of January 31, 2001, John R. Bertucci, chairman and chief executive officer of MKS, and members of his family, in the aggregate, beneficially owned approximately 41.4% of MKS' outstanding common stock. As a result, these stockholders, acting together, are able to exert substantial influence over actions of MKS.

SOME PROVISIONS OF MKS' AMENDED AND RESTATED ARTICLES OF ORGANIZATION, MKS' 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' 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 Supplemental Financial Statements for year ended December 31, 2000, reflecting the merger of MKS Instruments, Inc. and ASTeX, which was filed with the Securities and Exchange Commission in MKS's Current Report on Form 8-K on April 20, 2001. MKS enters into local currency purchased options 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's local currency purchased options at June 30, 2001 would be approximately $1.5 million. The potential loss was estimated by calculating the fair value of the local currency purchased options at June 30, 2001 and comparing that with those calculated using the hypothetical currency exchange rates. There were no other material changes in MKS's exposure to market risk from December 31, 2000.

PART II OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

MKS is not aware of any material legal proceedings to which it or any of its subsidiaries is a party.

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. During the three months ended June 30, 2001, the Company used approximately $7.0 million of the net proceeds from the securities sold to acquire a business. Cumulative use of net proceeds from the securities sold was $15.8 million as of June 30, 2001. 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

At the Company's Annual Meeting of stockholders held on May 16, 2001 (the "Annual Meeting"), the following proposals were approved as further specified below:

1. Election of Directors:

	FOR	WITHHELD AUTHORITY
Richard S. Chute	34,340,311	156,046
Owen W. Robbins	34,399,927	96,430

2. Amendment to the Restated Articles of Organization increasing the number of authorized shares of common stock from 50,000,0000 to 75,000,000.

FOR	AGAINST	ABSTAIN
34,239,685	234,491	22,181

3. Ratification of Appointment of PricewaterhouseCoopers LLP as independent accountants.

FOR	AGAINST	ABSTAIN
32,925,925	1,556,850	13,582

4. Transact such other business as may properly come before the meeting or any postponements or adjournments thereof.

FOR	AGAINST	ABSTAIN
29,320,184	4,263,864	912,309

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS AND REPORTS ON FORM 8-K

(a) Exhibits

EXHIBIT NUMBER	EXHIBIT DESCRIPTION
3.5	Articles of Amendment

(b) Reports on Form 8-K

A Current Report on Form 8-K was filed on April 20, 2001 containing financial information including the supplemental consolidated balance sheets, related supplemental consolidated statement of operations, and supplemental statements of stockholders' equity and cash flows for the fiscal years ended December 31, 2000, December 31, 1999, and December 31, 1998 pertaining to the retroactive effect of the January 26, 2001 business combination of MKS Instruments, Inc. and Applied Science and Technology, Inc., which was accounted for as a pooling of interests.

A Current Report on Form 8-K was filed on April 20, 2001 containing the statement of income data combining the statements of income for MKS calendar year 2000 and the MKS calendar year 2000 quarters ended March 31, June 30, September 30, and December 31 with the statements of income for the ASTeX calendar year 2000 and the ASTeX calendar year 2000 quarters ended March 25, July 1, September 30, and December 30, respectively.

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.

August 14, 2001

By: /s/ Ronald C. Weigner

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

EXHIBIT INDEX

EXHIBIT NUMBER	EXHIBIT DESCRIPTION
3.5	Articles of Amendment

EXHIBIT 3.5

FEDERAL IDENTIFICATION
NO. 04-2277512

Examiner

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THE COMMONWEALTH OF MASSACHUSETTS

WILLIAM FRANCIS GALVIN
Secretary of the Commonwealth
One Ashburton Place, Boston, Massachusetts 02108-1512

ARTICLES OF AMENDMENT
(General Laws, Chapter 156B, Section 72)

Name
Approved

- ---------------

We, Peter R. Younger, *President
- ---
and Richard S. Chute, *Clerk
- ---
of MKS Instruments, Inc.
- ---
(Exact name of corporation)

located at Six Shattuck Rd., Andover MA 01810
- ---
(Street address of corporation in Massachusetts)

certify that these Articles of Amendment affecting articles numbered:

Article III
- ---
(Number those articles 1, 2, 3, 4, 5 and/or 6 being amended)

of the Articles of Organization were duly adopted at a meeting held on May 16, 2001, by vote of:

34,239,685 shares of Common Stock of 36,895,936 shares outstanding.
- ---
(type, class & series, if any)

shares of of shares outstanding, and
- ---
(type, class & series, if any)

shares of of shares outstanding, and
- ---
(type, class & series, if any)

C [ ]
P [ ]
M [ ]
R.A. [ ]

(1)** being at least a majority of ech type, class or series outstanding and entitled to vote thereon:

* Delete the inapplicable words. ** Delete the inapplicable clause.
(1) For amendments adopted pursuant to Chapter 156B, Section 70.
(2) For amendments adopted pursuant to Chapter 156B, Section 71.
Note: If the space provided under any article or item on this form is insufficient, additions shall be set forth on one side only of separate 8 1/2 x 11 sheets of paper with a left margin of at least 1 inch. Additions to more than one article may be made on a single sheet so long as each article requiring each addition is clearly indicated.

P.C.

- -----------

ARTICLE III

To change the number of shares and the par value (if any) of any type, class or series of stock which the corporation is authorized to issue, fill in the following:

WITHOUT PAR VALUE STOCKS		WITH PAR VALUE STOCKS		
TYPE	NUMBER OF SHARES	TYPE	NUMBER OF SHARES	PAR VALUE
Common:	50,000,000	Common		
Preferred:		Preferred:	2,000,000	$0.01

Change the total authorized to:

WITHOUT PAR VALUE STOCKS		WITH PAR VALUE STOCKS		
TYPE	NUMBER OF SHARES	TYPE	NUMBER OF SHARES	PAR VALUE
Common:	75,000,000	Common		
Preferred:		Preferred:	2,000,000	$0.01

The foregoing amendment(s) will become effective when these Articles of Amendment are filed in accordance with General Laws, Chapter 156B, Section 6 unless these articles specify, in accordance with the vote adopting the amendment, a later effective date not more than thirty days after such filing, in which event the amendment will become effective on such later date.

Later effective date: ______________________________ .

SIGNED UNDER THE PENALTIES OF PERJURY, this 16th day of May, 2001,

/s/ Peter R. Younger , *President

/s/ Richard S. Chute , * Clerk

* Delete the inapplicable words.

THE COMMONWEALTH OF MASSACHUSETTS

ARTICLES OF AMENDMENT

(General Laws, Chapter 156B, Section 72)

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I hereby approve the within Articles of Amendment and the filing fee in the amount of $25,000.00 having been paid, said articles are deemed to have been filed with me this 18th day of May 2001.

Effective date: ____

WILLIAM FRANCIS GALVIN

Secretary of the Commonwealth

TO BE FILLED IN BY CORPORATION

Photocopy of document to be sent to:

Sarah Visbeek

Hale and Dorr LLP
----

60 State St.

Boston, MA 02109

Telephone: 617-526-5142
