UNITED STATES
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, 2011

or

o **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.)*
2 Tech Drive, Suite 201, Andover, Massachusetts	01810
(Address of principal executive offices)	*(Zip Code)*

Registrant’s telephone number, including area code (978) 645-5500

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 ☑ No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☑ No o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of “large accelerated filer,” “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☑	Accelerated filer o	Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No ☑

As of October 31, 2011 the registrant had 52,443,278 shares of common stock outstanding.

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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS.

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

	September 30, 2011	December 31, 2010
ASSETS		
Current assets:		
Cash and cash equivalents	$ 216,111	$162,476
Short-term investments	309,728	269,457
Trade accounts receivable, net	125,517	138,181
Inventories	161,059	156,429
Deferred income taxes	10,371	13,775
Other current assets	27,542	12,577
Total current assets	850,328	752,895
Property, plant and equipment, net	69,891	68,976
Long-term marketable securities	9,260	—
Goodwill	140,084	140,020
Intangible assets, net	1,307	1,743
Other assets	16,842	18,779
Total assets	$1,087,712	$982,413
LIABILITIES AND STOCKHOLDERS’ EQUITY		
Current liabilities:		
Short-term borrowings	$ 1,302	$ —
Accounts payable	22,572	36,427
Accrued compensation	24,519	29,944
Other current liabilities	34,538	43,315
Total current liabilities	82,931	109,686
Other liabilities	32,169	25,688
Commitments and contingencies (Note 15)		
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; 52,444,933 and 50,648,601 shares issued and outstanding at September 30, 2011 and December 31, 2010, respectively	113	113
Additional paid-in capital	703,405	663,792
Retained earnings	254,701	171,356
Accumulated other comprehensive income	14,393	11,778
Total stockholders’ equity	972,612	847,039
Total liabilities and stockholders’ equity	$1,087,712	$982,413

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

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

	Three Months Ended September 30, 2011	Three Months Ended September 30, 2010	Nine Months Ended September 30, 2011	Nine Months Ended September 30, 2010
Net revenues				
Products	$167,145	$199,376	$573,329	$569,377
Services	27,363	21,947	77,517	64,759
Total net revenues	194,508	221,323	650,846	634,136
Cost of revenues				
Cost of products	90,785	110,418	307,087	315,674
Cost of services	16,045	12,402	44,732	37,145
Total cost of revenues	106,830	122,820	351,819	352,819
Gross profit	87,678	98,503	299,027	281,317
Research and development	14,331	15,070	46,809	46,899
Selling, general and administrative	31,984	28,247	96,542	86,961
Amortization of intangible assets	251	250	751	1,033
Gain on sale of asset	—	—	—	(682)
Income from operations	41,112	54,936	154,925	147,106
Interest income	284	67	869	698
Interest expense	12	32	17	84
Income from continuing operations before income taxes	41,384	54,971	155,777	147,720
Provision for income taxes	11,011	18,370	48,760	48,977
Income from continuing operations	30,373	36,601	107,017	98,743
Income from discontinued operations, net of taxes	—	2,035	—	7,895
Net income	$ 30,373	$ 38,636	$107,017	$106,638
Basic income per share:				
Continuing operations	$ 0.58	$ 0.73	$ 2.06	$ 1.98
Discontinued operations	—	0.04	—	0.16
Net income	$ 0.58	$ 0.77	$ 2.06	$ 2.13
Diluted income per share:				
Continuing operations	$ 0.57	$ 0.72	$ 2.03	$ 1.94
Discontinued operations	—	0.04	—	0.16
Net income	$ 0.57	$ 0.76	$ 2.03	$ 2.10
Cash dividends per common share	$ 0.15	$ —	$ 0.45	$ —
Weighted average common shares outstanding:				
Basic	52,456	50,226	52,070	49,965
Diluted	52,992	50,994	52,761	50,821

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,	
	2011	2010
Cash flows from operating activities:		
Net income	$ 107,017	$ 106,638
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	9,641	10,619
Stock-based compensation	8,597	6,714
Provision for excess and obsolete inventory	10,924	8,804
Gain on disposal of discontinued operations	—	(4,431)
Deferred income taxes	3,084	11,715
Excess tax benefits from stock-based compensation	(5,282)	(1,830)
Other	503	(620)
Changes in operating assets and liabilities:		
Trade accounts receivable	13,511	(60,374)
Inventories	(14,856)	(44,414)
Income taxes	(3,295)	(897)
Other current assets	(9,816)	(1,753)
Accrued expenses and other current liabilities	(1,422)	33,849
Accounts payable	(13,962)	12,232
Net cash provided by operating activities	104,644	76,252
Cash flows from investing activities:		
Purchases of short-term and long-term investments	(359,857)	(237,025)
Maturities, sales and settlements of short-term and long-term investments	311,419	176,093
Purchases of property, plant and equipment	(9,691)	(11,430)
Proceeds from sale of assets	7	2,148
Net proceeds from sales of discontinued operations	—	15,581
Other	(473)	(1,061)
Net cash used in investing activities	(58,595)	(55,694)
Cash flows from financing activities:		
Proceeds from short-term borrowings	27,340	111,383
Payments on short-term borrowings	(26,094)	(115,836)
Repurchase of common stock	(475)	—
Net proceeds related to employee stock-based compensation	26,327	1,409
Dividend payments to common stockholders	(23,498)	—
Excess tax benefits from stock-based compensation	5,282	1,830
Net cash provided by (used in) financing activities	8,882	(1,214)
Effect of exchange rate changes on cash and cash equivalents	(1,296)	(362)
Increase in cash and cash equivalents	53,635	18,982
Cash and cash equivalents at beginning of period	162,476	111,009
Cash and cash equivalents at end of period	$ 216,111	$ 129,991

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

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

1) Basis of Presentation

The terms "MKS" and the "Company" refer to MKS Instruments, Inc. and its subsidiaries. The interim financial data as of September 30, 2011 and for the three and nine months ended September 30, 2011 and 2010 are unaudited; however, in the opinion of MKS, the interim data includes all adjustments, consisting only of normal recurring adjustments, necessary for a fair statement of the results for the interim periods. The consolidated balance sheet presented as of December 31, 2010 has been derived from the audited consolidated financial statements as of that date. The unaudited consolidated financial statements presented herein have been prepared in accordance with the instructions to Form 10-Q and do not include all of the information and note disclosures required by United States generally accepted accounting principles ("U.S. GAAP"). The consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto included in the MKS Annual Report on Form 10-K for the year ended December 31, 2010 filed with the Securities and Exchange Commission on February 25, 2011.

The preparation of these consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. On an on-going basis, management evaluates its estimates and judgments, including those related to revenue recognition, stock-based compensation, inventory, intangible assets, goodwill and other long-lived assets, acquisition expenses, income taxes and investments. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

2) Recently Issued Accounting Pronouncements

In September 2011, the Financial Accounting Standards Board ("FASB") issued an Accounting Standards Update ("ASU") which simplifies how companies test goodwill for impairment. The amendments permit an entity to first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the two-step goodwill impairment test described in the goodwill accounting standard. The amendments are effective for annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011. Early adoption is permitted. The Company does not expect the new ASU to have a material effect on its financial position, results of operations or cash flows.

In June 2011, the FASB issued an ASU which eliminates the option to present the components of other comprehensive income as part of the statement of equity and requires an entity to present the total of comprehensive income, the components of net income, and the components of other comprehensive income either in a single continuous statement of comprehensive income or in two separate but consecutive statements. The amendments are effective retrospectively for fiscal years, and interim periods within those years, beginning after December 15, 2011. The ASU requires changes in presentation only and the Company does not expect it will have a material effect on its consolidated financial statements.

In May 2011, the FASB issued an ASU which applies to all reporting entities that are required or permitted to measure or disclose the fair value of an asset, a liability, or an instrument classified in a reporting entity's shareholders' equity in the financial statements. The amendments do not extend the use of fair value accounting, but provide guidance on how it should be applied where its use is already required or permitted by other standards within U.S. GAAP. The amendments change the wording used to describe many requirements in U.S. GAAP for measuring fair value and for disclosing information about fair value measurements. Additionally, the ASU clarifies the FASB's intent about the application of existing fair value measurements. The amendments in this ASU are to be applied prospectively. For public entities, the amendments are effective during interim and annual periods beginning after December 15, 2011. Early application by public entities is not permitted. The Company does not expect the new ASU to have a material effect on its financial position, results of operations or cash flows.

In October 2009, the FASB issued an ASU that established new accounting and reporting provisions for arrangements including multiple revenue-generating activities. This ASU provides amendments to the criteria for separating deliverables, measuring and allocating arrangement consideration to one or more units of accounting. The amendments in this ASU also established a selling price hierarchy for determining the selling price of a deliverable. Significantly enhanced disclosures are also required to provide information about a vendor's multiple-deliverable revenue arrangements, including information about the nature and terms, significant deliverables, and its performance within arrangements. The amendments also require providing information about the significant judgments made and changes to those judgments and about how the application of the relative selling-price method affects the timing or amount of revenue recognition. The amendments in this ASU were effective prospectively for revenue arrangements entered into or materially modified in the fiscal years beginning on or after June 15, 2010. The Company adopted the new ASU in the first quarter of 2011, and the adoption did not have a material impact on the Company's financial position, results of operations or cash flows.

(in thousands, except share and per share data)

In October 2009, the FASB issued an ASU that changed the accounting model for revenue arrangements that include both tangible products and software elements that are "essential to the functionality," and scoped these products out of current software revenue guidance. The new ASU includes factors to help companies determine what software elements are considered "essential to the functionality." The amendments now subject software-enabled products to other revenue guidance and disclosure requirements, such as guidance surrounding revenue arrangements with multiple-deliverables. The amendments in this ASU were effective prospectively for revenue arrangements entered into or materially modified in the fiscal years beginning on or after June 15, 2010. The Company adopted the new ASU in the first quarter of 2011, and the adoption did not have a material impact on the Company's financial position, results of operations or cash flows.

3) Cash and Cash Equivalents and Investments

The fair value of short-term available-for-sale investments with maturities or estimated lives of less than one year consists of the following:

	September 30, 2011	December 31, 2010
Time deposits and drafts	$ 1,351	$ 15,716
U.S. treasury and agency obligations	307,764	253,250
	$309,115	$268,966

The fair value of short-term trading investments with maturities or estimated lives of less than one year consists of the following:

	September 30, 2011	December 31, 2010
Equity mutual funds	$613	$491

The changes in the net unrealized holding loss on short-term trading investments have been included in earnings and were immaterial for the three and nine months ended September 30, 2011 and 2010, respectively.

The fair value of long-term available-for-sale investments with maturities or estimated lives of more than one year consists of the following:

	September 30, 2011	December 31, 2010
U.S. treasury and agency obligations	$9,260	$—

The following table shows the gross unrealized gains and (losses) aggregated by investment category for available-for-sale securities:

	Cost	Gross Unrealized Gains	Gross Unrealized (Losses)	Estimated Fair Value
As of September 30, 2011:				
Money market funds	$ 75,794	$—	$ —	$ 75,794
Time deposits and drafts	32,239	—	—	32,239
U.S. treasury and agency obligations	318,748	44	(17)	318,775
	$426,781	$44	$(17)	$426,808
Reported as follows:				
Cash and cash equivalents (1)	$108,433	$—	$ —	$108,433
Short-term investments (2)	309,086	43	(14)	309,115
Long-term marketable securities	9,262	1	(3)	9,260
	$426,781	$44	$(17)	$426,808

MKS INSTRUMENTS, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (continued)
(in thousands, except share and per share data)

	Cost	Gross Unrealized Gains	Gross Unrealized (Losses)	Estimated Fair Value
As of December 31, 2010:				
Money market funds	$ 7,032	$—	$ —	$ 7,032
Time deposits and drafts	18,554	—	—	18,554
U.S. treasury and agency obligations	298,034	42	(35)	298,041
	$323,620	$42	$(35)	$323,627
Reported as follows:				
Cash and cash equivalents (1)	$ 54,664	$—	$ (3)	$ 54,661
Short-term investments (2)	268,956	42	(32)	268,966
	$323,620	$42	$(35)	$323,627

(1) The cash and cash equivalent amounts presented in the tables above do not include cash amounts of $107,678 and $107,815 as of September 30, 2011 and December 31, 2010, respectively.

(2) The short-term investment amounts presented in the tables above do not include $613 and $491 of short-term trading investments as of September 30, 2011 and December 31, 2010, respectively.

Interest income is accrued as earned. Dividend income is recognized as income on the date the stock trades “ex-dividend.” The cost of marketable securities sold is determined by the specific identification method and realized gains or losses are reflected in income and were not material for the three and nine months ended September 30, 2011 and 2010.

4) Fair Value Measurements

In accordance with the provisions of fair value accounting, a fair value measurement assumes that the transaction to sell an asset or transfer a liability occurs in the principal market for the asset or liability or, in the absence of a principal market, the most advantageous market for the asset or liability and defines fair value based upon an exit price model.

The fair value measurement guidance establishes a fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The guidance describes three levels of inputs that may be used to measure fair value:

Level 1 Quoted prices in active markets for identical assets or liabilities as of the reporting date. Active markets are those in which transactions for the asset or liability occur in sufficient frequency and volume to provide pricing information on an ongoing basis. Level 1 assets and liabilities include money market funds and debt and equity securities.

Level 2 Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Level 2 assets and liabilities include debt securities with quoted prices that are traded less frequently than exchange-traded instruments and derivative contracts whose value is determined using a pricing model with inputs that are observable in the market or can be derived principally from or corroborated by observable market data. This category generally includes certain time deposits, time drafts and non-exchange traded derivative contracts.

Level 3 Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. Level 3 assets and liabilities include financial instruments whose value is determined using pricing models, discounted cash flow methodologies, or similar techniques, as well as instruments for which the determination of fair value requires significant management judgment or estimation.

MKS INSTRUMENTS, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (continued)
(in thousands, except share and per share data)

The following tables provide a summary of assets and liabilities of the Company measured at fair value on a recurring basis as of September 30, 2011 and December 31, 2010:

		Fair Value Measurements at Reporting Date Using		
Description	September 30, 2011	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Available-for-sale securities:				
Money market funds	$ 75,794	$ 75,794	$ —	$—
Time deposits and drafts	32,239	—	32,239	—
U.S. treasury and agency obligations	318,775	318,775	—	—
Trading securities:				
Equity mutual funds	613	613	—	—
Derivatives — currency forward contracts	909	—	909	—
Total assets	$428,330	$395,182	$33,148	$—
Liabilities:				
Derivatives — currency forward contracts	$ 2,074	$ —	$ 2,074	$—

		Fair Value Measurements at Reporting Date Using		
Description	September 30, 2011	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Reported as follows:				
Assets:				
Cash and cash equivalents	$108,433	$ 77,545	$30,888	$—
Short-term investments	309,728	308,377	1,351	—
Long-term marketable securities	9,260	9,260	—	—
Other current assets	909	—	909	—
	$428,330	$395,182	$33,148	$—
Liabilities:				
Other current liabilities	$ 2,074	$ —	$ 2,074	$—

		Fair Value Measurements at Reporting Date Using		
Description	December 31, 2010	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Available-for-sale securities:				
Money market funds	$ 7,032	$ 7,032	$ —	$—
Time deposits and drafts	18,554	—	18,554	—
U.S. treasury and agency obligations	298,041	298,041	—	—
Trading securities:				
Equity mutual funds	491	491	—	—
Derivatives — currency forward contracts	369	—	369	—
Total assets	$324,487	$305,564	$18,923	$—

MKS INSTRUMENTS, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (continued)
(in thousands, except share and per share data)

Description	December 31, 2010	Fair Value Measurements at Reporting Date Using Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Liabilities:				
Derivatives — currency forward contracts	$ 3,463	$ —	$ 3,463	$—
Reported as follows:				
Assets:				
Cash and cash equivalents	$ 54,661	$ 51,823	$ 2,838	$—
Short-term investments	269,457	253,741	15,716	—
Other current assets	369	—	369	—
	$324,487	$305,564	$18,923	$—
Liabilities:				
Other current liabilities	$ 3,463	$ —	$ 3,463	$—

Money market funds
As of September 30, 2011 and December 31, 2010, this asset class consisted mainly of a money market portfolio that comprises Federal government agency and U.S. treasury securities. The asset class is classified within Level 1 of the fair value hierarchy because its underlying investments are valued using quoted market prices in active markets for identical assets.

Time deposits and drafts
As of September 30, 2011, this asset class consisted primarily of time deposits denominated in the Euro currency and time drafts guaranteed by a financial institution. As of December 31, 2010, this asset class consisted of time deposits denominated in the Euro currency. The asset class is valued using other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities and are classified within Level 2 of the fair value hierarchy.

Equity mutual funds
As of September 30, 2011 and December 31, 2010, this asset class consisted of certain U.S. and international equity mutual funds, classified within Level 1 of the fair value hierarchy because they are valued using quoted market prices in an active market for identical assets. The equity mutual funds are associated with the Company's supplemental defined contribution retirement obligations.

U.S. treasury and agency obligations
As of September 30, 2011 and December 31, 2010, this asset class consisted of U.S. treasury and agency obligations classified within Level 1 of the fair value hierarchy because they are valued using quoted market prices in an active market for identical assets.

Derivatives
As a result of the Company's global operating activities, the Company is exposed to market risks from changes in foreign currency exchange rates, which may adversely affect its operating results and financial position. When deemed appropriate, the Company minimizes its risks from foreign currency exchange rate fluctuations through the use of derivative financial instruments. The principal market in which the Company executes its foreign currency contracts is the institutional market in an over-the-counter environment with a relatively high level of price transparency. The market participants usually are large commercial banks. The forward foreign currency exchange contracts are valued using broker quotations, or market transactions and are classified within Level 2 of the fair value hierarchy.

5) Derivatives

The Company enters into derivative instruments for risk management purposes only, including derivatives designated as hedging instruments and those utilized as economic hedges. The Company operates internationally and, in the normal course of business, is exposed to fluctuations in interest rates and foreign exchange rates. These fluctuations can increase the costs of financing, investing and operating the business. The Company has used derivative instruments, such as forward contracts, to manage certain foreign currency exposure.

By nature, all financial instruments involve market and credit risks. The Company enters into derivative instruments with major investment grade financial institutions and no collateral is required. The Company has policies to monitor the credit risk of these counterparties. While there can be no assurance, the Company does not anticipate any material non-performance by any of these counterparties.

MKS INSTRUMENTS, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (continued)
(in thousands, except share and per share data)

The Company hedges a portion of its forecasted foreign currency denominated intercompany sales of inventory, over a maximum period of eighteen months, using forward foreign exchange contracts accounted for as cash-flow hedges related to Japanese, South Korean, British and European currencies. To the extent these derivatives are effective in off-setting the variability of the hedged cash flows, and otherwise meet the hedge accounting criteria, changes in the derivatives' fair value are not included in current earnings but are included in other comprehensive income ("OCI") in stockholders' equity. These changes in fair value will subsequently be reclassified into earnings, as applicable, when the forecasted transaction occurs. To the extent that a previously designated hedging transaction is no longer an effective hedge, any ineffectiveness measured in the hedging relationship is recorded currently in earnings in the period it occurs. The cash flows resulting from forward exchange contracts are classified in the consolidated statements of cash flows as part of cash flows from operating activities. The Company does not enter into derivative instruments for trading or speculative purposes.

To the extent the hedge accounting criteria is not met, the related foreign currency forward contracts are considered as economic hedges and changes in the fair value of these contracts are recorded immediately in earnings in the period in which they occur. These include hedges that are used to reduce exchange rate risks arising from the change in fair value of certain foreign currency denominated assets and liabilities (i.e., payables, receivables) and other economic hedges where the hedge accounting criteria were not met.

As of September 30, 2011 and December 31, 2010, the Company had outstanding forward foreign exchange contracts with gross notional values of $55,146 and $87,666, respectively. The following tables provide a summary of the primary net hedging positions and corresponding fair values held as of September 30, 2011 and December 31, 2010:

	September 30, 2011	
Currency Hedged (Buy/Sell)	Gross Notional Value	Fair Value (1)
U.S. Dollar/Japanese Yen	$27,742	$(2,006)
U.S. Dollar/South Korean Won	16,640	455
U.S. Dollar/Euro	6,448	273
U.S. Dollar/U.K. Pound Sterling	4,316	113
Total	$55,146	$(1,165)

	December 31, 2010	
Currency Hedged (Buy/Sell)	Gross Notional Value	Fair Value (1)
U.S. Dollar/Japanese Yen	$50,104	$(2,876)
U.S. Dollar/South Korean Won	27,574	(563)
U.S. Dollar/Euro	6,934	305
U.S. Dollar/U.K. Pound Sterling	3,054	40
Total	$87,666	$(3,094)

(1) Represents the net receivable (payable) amount included in the consolidated balance sheets.

The following table provides a summary of the fair value amounts of the Company's derivative instruments:

Derivatives Designated as Hedging Instruments	September 30, 2011	December 31, 2010
Derivative assets:		
Forward exchange contracts	$ 909	$ 369
Derivative liabilities:		
Forward exchange contracts	(2,074)	(3,463)
Total net derivative liability designated as hedging instruments (1)	$(1,165)	$(3,094)

(1) The derivative asset of $909 and derivative liability of $2,074 are classified in other current assets and other current liabilities, respectively, in the consolidated balance sheet as of September 30, 2011. The derivative asset of $369 and derivative liability of

MKS INSTRUMENTS, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (continued)
(in thousands, except share and per share data)

$3,463 are classified in other current assets and other current liabilities, respectively, in the consolidated balance sheet as of December 31, 2010.

The following table provides a summary of the gains (losses) on derivatives designated as hedging instruments:

Derivatives Designated as Cash Flow Hedging Relationships	Three Months Ended September 30,		Nine Months Ended September 30,	
Forward exchange contracts:	2011	2010	2011	2010
Net gain (loss) recognized in OCI (1)	$ 3,284	$(3,090)	$ 2,965	$(3,661)
Net (loss) reclassified from OCI into income (2)	(1,387)	(137)	(2,861)	(36)

(1) Net change in the fair value of the effective portion classified in OCI.

(2) Classified in selling, general and administrative.

6) Inventories

Inventories consist of the following:

	September 30, 2011	December 31, 2010
Raw materials	$ 81,105	$ 82,012
Work-in-process	21,554	21,891
Finished goods	58,400	52,526
	$161,059	$156,429

7) Goodwill and Intangible Assets

Goodwill

The Company tests goodwill for impairment on an annual basis, which has been determined to be as of October 31 of each fiscal year. The Company also tests goodwill between annual tests if an event occurs or circumstances change that indicate that the fair value of a reporting unit may be below its carrying value.

The changes in the carrying amount of goodwill and accumulated impairment losses during the nine months ended September 30, 2011 and twelve months ended December 31, 2010 were as follows:

	2011			2010		
	Gross Carrying Amount	Accumulated Impairment Loss	Net	Gross Carrying Amount	Accumulated Impairment Loss	Net
Beginning balance at January 1	$279,434	$(139,414)	$140,020	$337,765	$(193,254)	$144,511
Acquired goodwill (1)(2)	64	—	64	2,292	—	2,292
Sale of discontinued operations (3)	—	—	—	(60,623)	53,840	(6,783)
Ending balance at September 30, 2011 and December 31, 2010.	$279,498	$(139,414)	$140,084	$279,434	$(139,414)	$140,020

(1) In September 2011, the Company purchased a product line from GE Osmonics, Inc. for $458. The Company recorded $315 of intangible assets and $64 of goodwill in connection with the acquisition.

(2) In November 2010, the Company purchased a technology company for $2,447 to enhance its product portfolio. The Company recorded $2,292 of goodwill in connection with the acquisition.

(3) In May 2010, the Company sold its Ion Systems, Inc. (“Ion”) business and in August 2010 it sold the assets of its Yield Dynamics, LLC (“YDI”) business and as a result charged the related net goodwill to the gain on sale of discontinued operations.

MKS INSTRUMENTS, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (continued)
(in thousands, except share and per share data)

Intangible Assets

Components of the Company's intangible assets are comprised of the following:

	Gross	Accumulated Amortization	Net
As of September 30, 2011:			
Completed technology	$ 76,829	$ (76,689)	$ 140
Customer relationships	9,190	(8,300)	890
Patents, trademarks, trade names and other	24,703	(24,426)	277
	$110,722	$(109,415)	$1,307

	Gross	Accumulated Amortization	Net
As of December 31, 2010:			
Completed technology	$ 76,829	$ (76,230)	$ 599
Customer relationships	8,940	(8,083)	857
Patents, trademarks, trade names and other	24,638	(24,351)	287
	$110,407	$(108,664)	$1,743

Aggregate amortization expense related to intangible assets for the three and nine months ended September 30, 2011 was $251 and $751, respectively. Aggregate amortization expense related to intangible assets for the three and nine months ended September 30, 2010 was $250 and $1,033, respectively. Estimated amortization expense for each of the five succeeding fiscal years and thereafter is as follows:

Year	Amount
2011 (remaining)	$253
2012	447
2013	423
2014	52
2015	36
Thereafter	96

8) Debt

The Company's Japanese subsidiary has lines of credit and short-term borrowing arrangements with two financial institutions which provide for aggregate borrowings as of September 30, 2011 of up to an equivalent of $32,561, which generally expire and are renewed at three month intervals. At September 30, 2011, total borrowings outstanding under these arrangements were $1,302 at an interest rate of 0.65%. There were no borrowings outstanding at December 31, 2010.

9) Product Warranties

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

Product warranty activities were as follows:

	Nine Months Ended September 30,	
	2011	2010
Balance at January 1	$ 9,865	$ 6,560
Provision for product warranties	4,773	7,624
Direct charges to warranty liability	(6,026)	(4,319)
Balance at September 30	$ 8,612	$ 9,865

(in thousands, except share and per share data)

10) Income Taxes

The Company's effective tax rate for the three and nine months ended September 30, 2011 was 26.6% and 31.3%, respectively. The Company's effective tax rate for the three and nine months ended September 30, 2010 was 33.4% and 33.2%, respectively. The effective tax rates for the nine months ended September 30, 2011 and 2010, and the related income tax provisions were lower than the U.S. statutory tax rate primarily due to the geographic mix of income and profits earned by the Company's international subsidiaries being taxed at rates lower than the U.S. statutory rate. The decrease in the effective tax rate for the three month period ended September 30, 2011 was due to the recognition of discrete tax benefits realized by the Company and related principally to U.S. tax incentives.

At September 30, 2011, the total amount of gross unrecognized tax benefits, which excludes interest and penalties, was approximately $18,144. At December 31, 2010, the total amount of gross unrecognized tax benefits, which excludes interest and penalties, was approximately $15,270. The net increase from December 31, 2010 was primarily attributable to an increase in reserves for existing uncertain tax positions. If these benefits were recognized in a future period, the timing of which is not estimable, the net unrecognized tax benefit of $15,632, excluding interest and penalties, would impact the Company's effective tax rate as of September 30, 2011. The Company accrues interest expense and, if applicable, penalties for any uncertain tax positions. Interest and penalties are classified as a component of income tax expense. At September 30, 2011 and December 31, 2010, the Company had accrued interest on unrecognized tax benefits of approximately $1,385 and $986, respectively.

The Company and its subsidiaries are subject to examination by federal, state and foreign tax authorities. The statute of limitations for the Company's tax filings varies by tax jurisdiction between fiscal years 2001 through present.

While the Company believes it has adequately provided for all tax positions, amounts asserted by taxing authorities could materially differ from the Company's accrued positions as a result of uncertain and complex application of tax regulations. Additionally, the recognition and measurement of certain tax benefits include estimates and judgment by management and inherently includes subjectivity. Accordingly, the Company could record additional provisions or benefits due to U.S. federal, state, and foreign tax-related matters in the future as it revises estimates or settles or otherwise resolves the underlying matters.

11) Discontinued Operations

During the second quarter of 2010, the Company committed to a plan to divest two product lines, as their growth potential no longer met the Company's long-term strategic objectives. The Company completed the sale of Ion on May 17, 2010 for $15,090 of net cash proceeds after expenses and recorded a pre-tax gain on the sale of $4,210. The Company completed the sale of YDI on August 11, 2010 for $491 of net cash proceeds after expenses and recorded a pre-tax gain on the sale of $221.

The two product lines have been accounted for as discontinued operations. Accordingly, their results of operations have been reclassified to discontinued operations in the consolidated statements of operations for all periods presented. The assets and liabilities of these discontinued businesses have not been reclassified or segregated in the consolidated balance sheets or consolidated statements of cash flows due to their immaterial amounts. Net revenues and income from discontinued operations for the three and nine months ended September 30, 2011 and 2010 are as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
Net revenues	$—	$ 1,536	$—	$11,320
Income from discontinued operations before income taxes	$—	$ 832	$—	$ 2,051
Gain from disposal of discontinued operations before income taxes	—	203	—	4,431
Income tax benefit	—	(1,000)	—	(1,413)
Income from discontinued operations	$—	$ 2,035	$—	$ 7,895

MKS INSTRUMENTS, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (continued)
(in thousands, except share and per share data)

12) Net Income Per Share

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

	Three Months Ended September 30, 2011	Three Months Ended September 30, 2010	Nine Months Ended September 30, 2011	Nine Months Ended September 30, 2010
Numerator:				
Income from continuing operations	$ 30,373	$ 36,601	$ 107,017	$ 98,743
Income from discontinued operations, net of tax	—	2,035	—	7,895
Net income	$ 30,373	$ 38,636	$ 107,017	$ 106,638
Denominator:				
Shares used in net income per common share – basic	52,456,000	50,226,000	52,070,000	49,965,000
Effect of dilutive securities:				
Stock options, restricted stock and employee stock purchase plan	536,000	768,000	691,000	856,000
Shares used in net income per common share – diluted	52,992,000	50,994,000	52,761,000	50,821,000
Basic income per common share:				
Continuing operations	$ 0.58	$ 0.73	$ 2.06	$ 1.98
Discontinued operations	—	0.04	—	0.16
Net income	$ 0.58	$ 0.77	$ 2.06	$ 2.13
Diluted income per common share:				
Continuing operations	$ 0.57	$ 0.72	$ 2.03	$ 1.94
Discontinued operations	—	0.04	—	0.16
Net income	$ 0.57	$ 0.76	$ 2.03	$ 2.10

Basic earnings per share ("EPS") is computed by dividing income available to common stockholders by the weighted-average number of common shares outstanding during the period. The computation of diluted EPS is similar to the computation of basic EPS except that the denominator is increased to include the number of additional common shares that would have been outstanding (using the treasury stock method) if securities containing potentially dilutive common shares (stock options and restricted stock units) had been converted to such common shares, and if such assumed conversion is dilutive.

As of September 30, 2011, stock options and restricted stock units relating to an aggregate of approximately 1,593,000 shares were outstanding. For the three and nine months ended September 30, 2011, the potential dilutive effect of 373,000 and 295,000 weighted-average shares, respectively, of restricted stock units and stock options were excluded from the computation of diluted weighted-average shares outstanding as the shares would have an anti-dilutive effect on EPS.

As of September 30, 2010, stock options and restricted stock units relating to an aggregate of approximately 3,382,000 shares were outstanding. For the three and nine months ended September 30, 2010, the potential dilutive effect of 1,263,000 and 1,284,000 weighted-average shares, respectively, of restricted stock units and stock options were excluded from the computation of diluted weighted-average shares outstanding as the shares would have an anti-dilutive effect on EPS.

MKS INSTRUMENTS, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (continued)
(in thousands, except share and per share data)

13) Stockholders' Equity

Comprehensive Income

Components of comprehensive income were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
Net income	$30,373	$38,636	$107,017	$106,638
Other comprehensive income (loss) gain:				
Changes in value of financial instruments designated as cash flow hedges (net of tax)	1,289	(2,026)	1,167	(2,715)
Foreign currency translation adjustments	(3,997)	8,473	1,330	3,552
Unrealized gain on investments (net of tax)	79	118	118	43
Other comprehensive income (loss) gain	(2,629)	6,565	2,615	880
Total comprehensive income	$27,744	$45,201	$109,632	$107,518

Stock Repurchase Program

On July 25, 2011, the Company's Board of Directors approved a share repurchase program for the repurchase of up to an aggregate of $200,000 of its outstanding common stock from time to time in open market purchases, privately negotiated transactions or through other appropriate means. The timing and quantity of any shares repurchased will depend upon a variety of factors, including business conditions, stock market conditions and business development activities, including but not limited to merger and acquisition opportunities. These repurchases may be commenced, suspended or discontinued at any time without prior notice.

During the three and nine months ended September 30, 2011, the Company repurchased 22,000 shares of its common stock for $475 for an average price of $21.80 per share.

Cash Dividends

On September 16, 2011 the Company paid a quarterly cash dividend of $0.15 per share or $7,870, to shareholders of record as of September 1, 2011. For the nine months ended September 30, 2011, the Company has paid cash dividends of $23,498 in aggregate or $0.45 per share.

On October 24, 2011, the Company's Board of Directors authorized a quarterly cash dividend of $0.15 per share, payable on December 16, 2011 to shareholders of record as of December 1, 2011. Future dividend declarations, as well as the record and payment dates for such dividends, are subject to the final determination of the Company's Board of Directors.

14) Geographic, Product and Significant Customer Information

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

MKS INSTRUMENTS, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS — (continued)
(in thousands, except share and per share data)

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
Geographic net revenues:				
United States	$ 89,218	$125,897	$310,233	$366,710
Japan	28,571	29,487	80,761	90,787
Europe	30,033	25,540	90,589	68,259
Asia (excluding Japan)	46,686	40,399	169,263	108,380
	$194,508	$221,323	$650,846	$634,136

	September 30, 2011	December 31, 2010
Long-lived assets (1):		
United States	$53,940	$54,840
Japan	4,132	4,273
Europe	5,174	4,970
Asia (excluding Japan)	8,669	8,597
	$71,915	$72,680

(1) Long-lived assets include property, plant and equipment, net and certain other assets.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
Instruments and Control Systems	$ 97,481	$113,634	$329,170	$316,979
Power and Reactive Gas Products	77,193	86,818	257,198	260,282
Vacuum Products	19,834	20,871	64,478	56,875
	$194,508	$221,323	$650,846	$634,136

The Company had one customer comprising 12% and 14% of net revenues for the three and nine months ended September 30, 2011, respectively. The Company had one customer comprising 16% of net revenues for both the three and nine months ended September 30, 2010.

15) Commitments and Contingencies

The Company is subject to various 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.

The Company reviewed its contractual obligations and commercial commitments as of September 30, 2011 and determined that there were no significant changes from the ones set forth in the notes to the consolidated financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2010.

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, Section 27A of the Securities Act and Section 21E of the Securities Exchange Act. When used herein, the words "believes," "anticipates," "plans," "expects," "estimates," "would," "will," "intends" 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. While we may elect to update forward looking statements at some point in the future, we specifically disclaim any obligation to do so even if our estimates or expectations change. Risks and uncertainties include, but are not limited to those discussed in our Annual Report on Form 10-K for the year ended December 31, 2010 in the section entitled "Risk Factors" as referenced in Part II, Item 1A "Risk Factors" of this Quarterly Report on Form 10-Q.

Overview

We are a global provider of instruments, subsystems and process control solutions that measure, control, power, monitor and analyze critical parameters of advanced manufacturing processes to improve process performance and productivity. We also provide services relating to the maintenance and repair of our products, software maintenance, installation services and training.

Our products are derived from our core competencies in pressure measurement and control, materials delivery, gas composition analysis, control and information technology, power and reactive gas generation and vacuum technology. Our primary served markets are manufacturers of capital equipment for semiconductor devices, and for other thin film applications including flat panel displays, solar cells and light emitting diodes, data storage media and other advanced coatings. We also leverage our technology into other markets with advanced manufacturing applications including medical equipment, pharmaceutical manufacturing, energy generation and environmental monitoring.

We are managed as one operating segment. We group our products into three product groups: Instruments and Control Systems, Power and Reactive Gas Products and Vacuum Products.

We have a diverse base of customers that includes manufacturers of semiconductor capital equipment and semiconductor devices, thin film capital equipment used in the manufacture of flat panel displays, LEDs, solar cells, data storage media and other coating applications; and industrial, medical, pharmaceutical manufacturing, energy generation, environmental monitoring and other advanced manufacturing companies, as well as university, government and industrial research laboratories. For the nine months ended September 30, 2011 and the full year ended December 31, 2010, approximately 61% and 64% of our net sales, respectively, were to semiconductor capital equipment manufacturers and semiconductor device manufacturers. We expect that sales to semiconductor capital equipment manufacturers and semiconductor device manufacturers will continue to account for a substantial portion of our sales.

Starting late in the second quarter of 2011, we have seen a weakening in our orders and sales, mainly in the semiconductor markets. Worldwide economic uncertainty and slowing consumer spending have resulted in lower electronics demand, rising chip inventories, and a slowing of investments in semiconductor production capacity for the second half of this year. This means that our capital equipment customers have seen their order rates decline significantly, and they have therefore slowed the rate at which they are ordering from us. Sales to our capital equipment customers decreased 26% in the third quarter of 2011 compared to the second quarter, after growing by 4% in the second quarter of 2011 compared to the first quarter. The semiconductor capital equipment industry is subject to rapid demand shifts, which are difficult to predict, and we are uncertain as to the timing or extent of future demand or any future weakness in the semiconductor capital equipment industry.

Our net revenues sold to other advanced markets, which exclude semiconductor capital equipment and semiconductor device product applications, were flat in the third quarter of 2011 compared to the second quarter. For the nine months ended September 30, 2011, these revenues increased by 11% compared to the same period for the prior year. The increase was mainly due to product revenues from a thin film solar customer in China during the first quarter of 2011. These advanced and growing markets include LED, medical, biopharm, environmental, thin films, solar and other markets and we anticipate that these markets will continue to grow and will represent a larger portion of our revenue.

A significant portion of our net revenues is to customers in international markets. For the nine months ended September 30, 2011 and the nine months ended September 30, 2010, international net revenues accounted for approximately 52% and 42% of our net revenues, respectively. A significant portion of our international net revenues were in Japan and China. We expect that international net revenues will continue to represent a significant percentage of our total net revenues.

Critical Accounting Policies and Estimates

The preparation of our consolidated financial statements and related disclosures in conformity with accounting principles generally accepted in the United States of America requires management to make judgments, assumptions and estimates that affect the amounts reported. There have been no material changes in our critical accounting policies since December 31, 2010. For further information, please see the discussion of critical accounting policies in our Annual Report on Form 10-K for the year ended December 31, 2010 in the section captioned "Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies and Estimates."

Results of Operations

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
Net revenues:				
Product	85.9%	90.1%	88.1%	89.8%
Services	14.1	9.9	11.9	10.2
Total net revenues	100.0	100.0	100.0	100.0
Cost of revenues:				
Cost of product revenues	46.7	49.9	47.2	49.8
Cost of service revenues	8.2	5.6	6.9	5.8
Total cost of revenues	54.9	55.5	54.1	55.6
Gross profit	45.1	44.5	45.9	44.4
Research and development	7.4	6.8	7.2	7.4
Selling, general and administrative	16.5	12.8	14.8	13.7
Amortization of intangible assets	0.1	0.1	0.1	0.2
Gain on sale of asset	—	—	—	(0.1)
Income from operations	21.1	24.8	23.8	23.2
Interest income, net	0.1	0.0	0.1	0.1
Income from continuing operations before income taxes	21.2	24.8	23.9	23.3
Provision for income taxes	5.6	8.3	7.5	7.7
Income from continuing operations	15.6	16.5	16.4	15.6
Income from discontinued operations, net of taxes	—	0.9	—	1.2
Net income	15.6%	17.4%	16.4%	16.8%

Net Revenues (dollars in millions)

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2011	2010	% Change	2011	2010	% Change
Net Revenues:						
Product	$167.1	$199.4	(16.2)%	$573.3	$569.4	0.7%
Service	27.4	21.9	24.7%	77.5	64.7	19.7%
Total net revenues	$194.5	$221.3	(12.1)%	$650.8	$634.1	2.6%

Product revenues decreased $32.3 million during the three months ended September 30, 2011, compared to the same period for the prior year. Product revenues related to our semiconductor capital equipment manufacturer and semiconductor device manufacturer customers decreased by $29.0 million, or 23.1%, as we believe that slowing consumer spending has resulted in lower electronics demand, rising chip inventories and a slowing of investment in semiconductor production capacity. Our product revenues for other advanced markets, which exclude semiconductor capital equipment and semiconductor device product applications, decreased $3.3 million, or 4.5%, primarily due to a reduction in product sales to the biopharm, medical and other markets.

Product revenues increased $3.9 million for the nine months ended September 30, 2011 compared to the same period in the prior year. Product revenues related to our semiconductor capital equipment manufacturer and semiconductor device manufacturer customers decreased by $13.2 million, or 3.7%. Our product revenues for other advanced markets, which exclude semiconductor capital equipment and semiconductor device product applications, increased $17.1 million, or 8.1%. The increase in demand in our other advanced markets included mainly the industrial and solar markets. A significant portion of this increase was due to product revenues from a thin film solar customer in China during the first quarter of 2011.

Service revenues consisted mainly of fees for services relating to the maintenance and repair of our products, software maintenance, installation services and training. Service revenues increased $5.5 million, or 24.7%, and $12.8 million, or 19.7%, during the three and nine months ended September 30, 2011, respectively, compared to the same periods for the prior year, as a result of a larger installed base of products and due to our continued investment in 2011 to grow our worldwide service business.

Total international net revenues, including product and service, were $105.3 million, and $340.6 million, or 54.1% and 52.3% of net revenues for the three and nine months ended September 30, 2011, respectively. Total international net revenues, including product and service, were $95.4 million, and $267.4 million, or 43.1% and 42.2% of net revenues, for the three and nine months ended September 30, 2010, respectively. The increases in both the three and nine months ended September 30, 2011 and 2010 are due to a general increase in revenues from our semiconductor device and solar customers, most of which are concentrated in Asia. A significant portion of the increase in international net revenues for the nine months ended September 30, 2011 was due to product revenues from a thin film solar customer in China during the first quarter of 2011.

Gross Profit

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2011	2010	% Points Change	2011	2010	% Points Change
Gross profit as percentage of net revenues:						
Product	45.7%	44.6%	1.1%	46.4%	44.6%	1.8%
Service	41.4	43.5	(2.1)	42.3	42.6	(0.3)
Total gross profit percentage	45.1%	44.5%	0.6%	45.9%	44.4%	1.5%

Gross profit on product revenues increased by 1.1 percentage points for the three months ended September 30, 2011, compared to the same period for the prior year. The increase is due to an increase of 5.1 percentage points due to favorable product mix, an increase of 1.1 percentage points from favorable foreign exchange fluctuations and 0.7 percentage points related to lower warranty costs. These increases were partially offset by 2.6 percentage points due to higher overhead, 1.8 percentage points related to unfavorable revenue volumes and 1.7 percentage points related to higher excess and obsolete related charges. The higher overhead percentage is mainly due to less overhead absorption as a result of the decreased revenue volumes.

Gross profit on product revenues increased by 1.8 percentage points for the nine months ended September 30, 2011, compared to the same period for the prior year. The increase is due to an increase of 4.2 percentage points due to favorable product mix, an increase of 0.9 percentage points from favorable foreign exchange fluctuations and an increase of 0.4 percentage points due to a decrease in warranty costs. These increases were partially offset by 1.5 percentage points due to higher overhead, 1.2 percentage points related to higher excess and obsolete inventory related net charges and 1.0 percentage points due to lower revenue volumes.

Cost of service revenues consists primarily of costs of providing services for repair and training which includes salaries and related expenses and other fixed costs. Service gross profit decreased by 2.1 percentage points and 0.3 percentage points for the three and nine months ended September 30, 2011, respectively, compared to the same periods for the prior year. The decreases were mainly a result of unfavorable mix, partially offset by higher volumes.

Research and Development (dollars in millions)

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2011	2010	% Change	2011	2010	% Change
Research and development expenses	$14.3	$15.1	(4.9)%	$46.8	$46.9	(0.2)%

Research and development expense decreased $0.8 million during the three months ended September 30, 2011, compared to the same period for the prior year. The decrease includes a $0.3 million decrease in spending on project materials and a $0.3 million decrease in consulting costs, both due to changes in the timeline of certain projects.

Research and development expense decreased $0.1 million during the nine months ended September 30, 2011, compared to the same period for the prior year. The decrease is primarily attributed to a $1.2 million decrease in spending on project materials due to the timing of projects almost entirely offset by a $1.2 million increase in compensation expense. The increase in compensation expense is mainly due to higher salary costs and additional personnel.

Our research and development is primarily focused on developing and improving our instruments, components, subsystems and process control solutions to improve process performance and productivity.

We have thousands of products and our research and development efforts primarily consist of a large number of projects related to these products, none of which is individually material to us. Current projects typically have durations of 3 to 30 months depending upon whether the product is an enhancement of existing technology or a new product. Our current initiatives include projects to enhance the performance characteristics of older products, to develop new products and to integrate various technologies into subsystems. These projects support in large part the transition in the semiconductor industry to smaller integrated circuit geometries and in the flat panel display and solar markets to larger substrate sizes, which require more advanced process control technology. Research and development expenses consist primarily of salaries and related expenses for personnel engaged in research and development, fees paid to consultants, material costs for prototypes and other expenses related to the design, development, testing and enhancement of our products as well as legal costs associated with maintaining and defending our intellectual property.

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

Selling, General and Administrative (dollars in millions)

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2011	2010	% Change	2011	2010	% Change
Selling, general and administrative expenses	$32.0	$28.3	13.2%	$96.5	$87.0	11.0%

Selling, general and administrative expenses increased $3.7 million for the three months ended September 30, 2011, compared to the same period for the prior year. The increase includes a $1.5 million increase in consulting and professional fees, primarily related to IT projects and a $3.0 million unfavorable impact from foreign exchange, partially offset by a $0.5 million decrease in variable compensation expense, a $0.4 million decrease in advertising and investor relations expense and a $0.4 million decrease in depreciation.

Selling, general and administrative expenses increased $9.5 million for the nine months ended September 30, 2011, compared to the same period for the prior year. The increase includes a $3.3 million increase in consulting and professional fees, primarily related to IT projects, a $3.3 million unfavorable impact from foreign exchange, a $2.3 million increase in compensation and compensation related costs, a $0.7 million increase in travel related expenses and a $0.4 million increase in the provision for uncollectable accounts. These increases were partially offset by a $1.0 million decrease in depreciation expense.

Amortization of Intangible Assets (dollars in millions)

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2011	2010	% Change	2011	2010	% Change
Amortization of intangible assets	$0.3	$0.3	—%	$0.7	$1.0	(27.3)%

Amortization expense for the nine months ended September 30, 2011 decreased $0.3 million compared to the same period for the prior year as certain intangible assets became fully amortized during 2010.

Gain on Sale of Asset (dollars in millions)

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2011	2010	% Change	2011	2010	% Change
Gain on sale of asset	$—	$—	—%	$—	$0.7	(100)%

During the first quarter of 2010, we sold two vacated facilities for proceeds of $2.1 million and recorded a $0.7 million net gain on the sale.

Interest Income, Net (dollars in millions)

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2011	2010	% Change	2011	2010	% Change
Interest income, net	$0.3	$—	100%	$0.9	$0.6	38.8%

Interest income, net increased $0.3 million in the three and nine month periods ended September 30, 2011 compared to the same periods in 2010. The increases are related to an increase in investment balances and a change in the mix of the investment portfolio.

Provision for Income Taxes (dollars in millions)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2011	2010	2011	2010
Provision for income taxes	$11.0	$18.4	$48.8	$49.0

Our effective tax rate for the three and nine months ended September 30, 2011 was 26.6% and 31.3%. Our effective tax rate for the three and nine months ended September 30, 2010 was 33.4% and 33.2%, respectively. The effective tax rates for the nine months ended September 30, 2011 and 2010, and the related income tax provisions were lower than the U.S. statutory tax rate primarily due to the geographic mix of income and profits earned by our international subsidiaries being taxed at rates lower than the U.S. statutory rate. The decrease in the effective tax rate for the three month period ended September 30, 2011 was due to the recognition of discrete tax benefits realized by the Company that related principally to U.S. tax incentives.

At September 30, 2011, our total amount of gross unrecognized tax benefits, which excludes interest and penalties, was approximately $18.1 million. At December 31, 2010, our total amount of gross unrecognized tax benefits, which excludes interest and penalties, was approximately $15.3 million. The net increase from December 31, 2010 was primarily attributable to an increase in reserves for existing uncertain tax positions. If these benefits were recognized in a future period, the timing of which is not estimable, the net unrecognized tax benefit of $15.6 million, excluding interest and penalties, would impact our effective tax rate as of September 30, 2011. We accrue interest expense and, if applicable, penalties for any uncertain tax positions. Interest and penalties are classified as a component of income tax expense. At September 30, 2011 and December 31, 2010, we had accrued interest on unrecognized tax benefits of approximately $1.4 million and $1.0 million, respectively.

We and our subsidiaries are subject to examination by federal, state and foreign tax authorities. The statute of limitations for our tax filings varies by tax jurisdiction between fiscal years 2001 through present.

Our future effective income tax rate depends on various factors, such as tax legislation and the geographic composition of our pre-tax income. We monitor these factors and timely adjust our effective tax rate accordingly. Additionally, the effective tax rate could be adversely affected by changes in the valuation of deferred tax assets and liabilities. In particular, the carrying value of deferred tax assets, which are predominantly in the United States, is dependent on our ability to generate sufficient future taxable income in the United States. While we believe we have adequately provided for all tax positions, amounts asserted by taxing authorities could materially differ from our accrued positions as a result of uncertain and complex application of tax regulations. Additionally, the recognition and measurement of certain tax benefits include estimates and judgment by management and inherently includes subjectivity. Accordingly, we could record additional provisions or benefits due to U.S. federal, state, and foreign tax-related matters in the future as we revise estimates or settle or otherwise resolve the underlying matters.

Discontinued Operations

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2011	2010	% Change	2011	2010	% Change
Income from discontinued operations, net of taxes	$—	$2.0	(100)%	$—	$7.9	(100)%

During the second quarter of 2010, we committed to a plan to divest two product lines as their growth potential no longer met our long-term strategic objectives. We completed the sale of Ion Systems, Inc. in May 2010 for $15.1 million of net cash proceeds after expenses and recorded a pre-tax gain on the sale of $4.2 million. We sold the assets of our Yield Dynamics, LLC business in August 2010 for a total of $0.5 million of net cash proceeds after expenses and recorded a $0.2 million pre-tax gain on the sales.

The two product lines have been accounted for as discontinued operations. Accordingly, their results of operations have been reclassified to discontinued operations in the consolidated statements of operations for 2010. The assets and liabilities of these discontinued product lines have not been reclassified or segregated in the consolidated balance sheets or consolidated statements of cash flows due to their immaterial amounts.

Liquidity and Capital Resources

Cash and cash equivalents and short-term and long-term investments totaled $535.1 million at September 30, 2011 compared to $431.9 million at December 31, 2010. This increase was mainly attributable to our net cash provided by operating activities as a result of our net income and net proceeds related to employee stock option awards, partially offset by dividend payments to our common shareholders and capital expenditures.

Net cash provided by operating activities was $104.6 million for the nine months ended September 30, 2011 and resulted mainly from net income of $107.0 million which included non-cash charges of $29.2 million, partially offset by an increase of $29.8 million in working capital. The increase in working capital consisted primarily of a $14.9 million increase in inventory, a $14.0 million decrease in accounts payable, a $9.8 million increase in other current assets, and a $3.3 million increase in income tax receivable. These increases were partially offset by a decrease in accounts receivable of $13.5 million. The decrease in accounts receivable and decrease in accounts payable reflects the moderation of business activity. The increase in inventory relates to specific solar projects that have been delayed by our customers.

Net cash provided by operating activities of $76.3 million for the nine months ended September 30, 2010, resulted mainly from net income of $106.6 million, which included non-cash net charges of $21.7 million, partially offset by an increase of $61.4 million in working capital. The increase in working capital consisted primarily of a $60.4 million increase in accounts receivable, a $44.4 million increase in inventory and a $1.8 million increase in other current assets. These increases were partially offset by increases of $33.8 million in accrued expenses and other liabilities and $12.2 million in accounts payable. The increases during the nine months ended September 30, 2010 are a result of a significant increase in business levels from 2009 to 2010.

Net cash used in investing activities of $58.6 million for the nine months ended September 30, 2011, resulted primarily from $48.4 million of net purchases of short-term and long-term investments and $9.7 million in purchases of production related equipment. Net cash used in investing activities of $55.7 million for the nine months ended September 30, 2010, resulted primarily from net purchases of $60.9 million of short-term and long-term investments and $11.4 million in purchases of property, plant and equipment, partially offset by $15.6 million in net proceeds from the sale of discontinued product lines.

Net cash provided by financing activities was $8.9 million for the nine months ended September 30, 2011 and consisted primarily of $26.3 million in net proceeds related to employee stock-based compensation and $5.3 million from excess tax benefits from stock-based compensation. These increases were partially offset by dividend payments to common stockholders of an aggregate of $23.5 million. Net cash used in financing activities was $1.2 million for the nine months ended September 30, 2010 and consisted primarily of $4.5 million in net payments on short-term borrowings, offset by $1.8 million related to excess tax benefits from stock-based compensation and $1.4 million in net proceeds related to stock-based compensation.

Our Japanese subsidiary has lines of credit and short-term borrowing arrangements with two financial institutions which provide for aggregate borrowings as of September 30, 2011 of up to an equivalent of $32.6 million U.S. dollars, which generally expire and are renewed at three month intervals. At September 30, 2011 total borrowings outstanding under these arrangements were $1.3 million at an interest rate of 0.65%. There were no borrowings outstanding at December 31, 2010.

On July 25, 2011, our Board of Directors approved a share repurchase program for the repurchase of up to an aggregate of $200 million of our common stock from time to time in open market purchases, privately negotiated transactions or through other appropriate means. The timing and quantity of any shares repurchased will depend upon a variety of factors, including business conditions, stock market conditions and business development activities, including but not limited to merger and acquisition opportunities. These repurchases may be commenced, suspended or discontinued at any time without prior notice. During the nine months ended September 30, 2011, the Company repurchased 22,000 shares of common stock for $0.5 million for an average price of $21.80 per share.

In the nine months ended September 30, 2011, we paid $23.5 million in cash dividends, which represents $0.45 per share or $0.15 per quarter.

On October 24, 2011, our Board of Directors authorized a quarterly cash dividend of $0.15 per share, payable on December 16, 2011 to shareholders of record as of December 1, 2011. Future dividend declarations, as well as the record and payment dates for such dividends, are subject to the final determination of our Board of Directors.

We believe that our current cash position and available borrowings will be sufficient to satisfy our estimated working capital, dividend payments and planned capital expenditure requirements through at least the next 12 months and the foreseeable future.

Off-Balance Sheet Arrangements

We do not have any financial partnerships with unconsolidated entities, such as entities often referred to as structured finance, special purpose entities or variable interest entities, which are often established for the purpose of facilitating off-balance sheet arrangements or for other contractually narrow or limited purposes. Accordingly, we have no off-balance sheet arrangements that have or are reasonably expected to have a current or future effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources that are material to investors.

Contractual Obligations

We reviewed our contractual obligations and commercial commitments as of September 30, 2011 and determined that there were no significant changes from the ones set forth in the notes to the consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2010.

Recently Issued Accounting Pronouncements

In September 2011, the Financial Accounting Standards Board ("FASB") issued an Accounting Standards Update ("ASU") which simplifies how companies test goodwill for impairment. The amendments permit an entity to first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the two-step goodwill impairment test described in the goodwill accounting standard. The amendments are effective for annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011. Early adoption is permitted. We do not expect the new ASU to have a material effect on our financial position, results of operations or cash flows.

In June 2011, the FASB issued an ASU which eliminates the option to present the components of other comprehensive income as part of the statement of equity and requires an entity to present the total of comprehensive income, the components of net income, and the components of other comprehensive income either in a single continuous statement of comprehensive income or in two separate but consecutive statements. The amendments are effective retrospectively for fiscal years, and interim periods within those years, beginning after December 15, 2011. The ASU requires changes in presentation only and we do not expect it will have a material effect on our consolidated financial statements.

In May 2011, the FASB issued an ASU which applies to all reporting entities that are required or permitted to measure or disclose the fair value of an asset, a liability, or an instrument classified in a reporting entity's shareholders' equity in the financial statements. The amendments do not extend the use of fair value accounting, but provide guidance on how it should be applied where its use is already required or permitted by other standards within U.S. GAAP. The amendments change the wording used to describe many requirements in U.S. GAAP for measuring fair value and for disclosing information about fair value measurements. Additionally, the ASU clarifies the FASB's intent about the application of existing fair value measurements. The amendments in this ASU are to be applied prospectively. For public entities, the amendments are effective during interim and annual periods beginning after December 15, 2011. Early application by public entities is not permitted. We do not expect the new ASU to have a material effect on our financial position, results of operations or cash flows.

In October 2009, the FASB issued an ASU that established new accounting and reporting provisions for arrangements including multiple revenue-generating activities. This ASU provides amendments to the criteria for separating deliverables, measuring and allocating arrangement consideration to one or more units of accounting. The amendments in this ASU also established a selling price hierarchy for determining the selling price of a deliverable. Significantly enhanced disclosures are also required to provide information about a vendor's multiple-deliverable revenue arrangements, including information about the nature and terms, significant deliverables, and its performance within arrangements. The amendments also require providing information about the significant judgments made and changes to those judgments and about how the application of the relative selling-price method affects the timing or amount of revenue recognition. The amendments in this ASU were effective prospectively for revenue arrangements entered into or materially modified in the fiscal years beginning on or after June 15, 2010. We adopted the new ASU in the first quarter of 2011 and the adoption did not have a material impact on our financial position, results of operations, or cash flows.

In October 2009, the FASB issued an ASU that changed the accounting model for revenue arrangements that include both tangible products and software elements that are "essential to the functionality," and scoped these products out of current software revenue guidance. The new ASU includes factors to help companies determine what software elements are considered "essential to the functionality." The amendments now subject software-enabled products to other revenue guidance and disclosure requirements, such as guidance surrounding revenue arrangements with multiple-deliverables. The amendments in this ASU were effective prospectively for revenue arrangements entered into or materially modified in the fiscal years beginning on or after June 15, 2010. We adopted the new ASU in the first quarter of 2011 and the adoption did not have a material impact on our financial position, results of operations, or cash flows.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Information concerning market risk is contained in the section entitled "Quantitative and Qualitative Disclosures About Market Risk" contained in our Annual Report on Form 10-K for the year ended December 31, 2010 filed with the Securities and Exchange Commission on February 25, 2011. As of September 30, 2011, there were no material changes in our exposure to market risk from December 31, 2010.

ITEM 4. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2011. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), means controls and other procedures of an issuer that are designed to ensure that information required to be disclosed by the issuer in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by an issuer in the reports that it files or submits under the Exchange Act is accumulated and communicated to the issuer’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of September 30, 2011, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms and is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter ended September 30, 2011 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS.

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

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

ITEM 1A. RISK FACTORS.

Information regarding risk factors affecting the Company’s business are discussed in the Company’s Annual Report on Form 10-K for the year ended December 31, 2010 in the section entitled “Risk Factors.” There have been no material changes from the risks disclosed therein.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

The following table sets forth certain information with respect to repurchases of our common stock during the three months ended September 30, 2011.

ISSUER PURCHASES OF EQUITY SECURITIES

Period	(a) Total Number of Shares Purchased	(b) Average Price Paid per Share	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1)	(d) Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (1)
July 1 — July 31, 2011	—	$ —	—	$200,000,000
August 1 — August 31, 2011	—	—	—	200,000,000
September 1 — September 30, 2011	22,000	21.80	22,000	199,525,000
Total	**22,000**	**$21.80**	**22,000**	

(1) On July 25, 2011, our Board of Directors approved a share repurchase program for the repurchase of up to an aggregate of $200 million of our common stock from time to time in open market purchases, privately negotiated transactions or through other appropriate means, which we announced on July 27, 2011. The timing and quantity of any shares repurchased will depend upon a variety of factors, including business conditions, stock market conditions and business development activities, including but not limited to merger and acquisition opportunities. These repurchases may be commenced, suspended or discontinued at any time without prior notice.

ITEM 6. EXHIBITS.

Exhibit No.	Exhibit Description
3.1(1)	Restated Articles of Organization
3.2(2)	Articles of Amendment, as filed with the Secretary of State of Massachusetts on May 18, 2001
3.3(3)	Articles of Amendment, as filed with the Secretary of State of Massachusetts on May 16, 2002
3.4(4)	Amended and Restated By-Laws
31.1	Certification of Principal Executive Officer pursuant to Rule 13a-14(a)/Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended
31.2	Certification of Principal Financial Officer pursuant to Rule 13a-14(a)/Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended
32.1	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document. **
101.SCH	XBRL Taxonomy Extension Schema Document. **
101.CAL	XBRL Taxonomy Calculation Linkbase Document **
101.LAB	XBRL Taxonomy Labels Linkbase Document. **
101.PRE	XBRL Taxonomy Presentation Linkbase Document. **
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document. **

** Pursuant to Rule 406T of Regulation S-T, the Interactive Data Files on Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

(1) Incorporated by reference to the Registration Statement on Form S-4 (File No. 333-49738) filed with the Securities and Exchange Commission on November 13, 2000.

(2) Incorporated by reference to the Registrant’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2001.

(3) Incorporated by reference to the Registrant’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2002.

(4) Incorporated by reference to the Registration Statement on Form S-1 filed with the Securities and Exchange Commission on January 28, 1999, as amended.

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 4, 2011

By: /s/ Seth H. Bagshaw
Seth H. Bagshaw
Vice President, Chief Financial Officer and Treasurer
(Principal Financial Officer)

EXHIBIT 31.1

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

I, Leo Berlinghieri, certify that:

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

Date: November 4, 2011

/s/ Leo Berlinghieri
Leo Berlinghieri
Chief Executive Officer and President
(Principal Executive Officer)

EXHIBIT 31.2

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

I, Seth H. Bagshaw, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of MKS Instruments, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 4, 2011

/s/ Seth H. Bagshaw

Seth H. Bagshaw
Vice President, Chief Financial Officer and Treasurer
(Principal Financial Officer)

EXHIBIT 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of MKS Instruments, Inc. (the “Company”) for the period ended September 30, 2011, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), the undersigned, Leo Berlinghieri, Chief Executive Officer and President of the Company, and Seth H. Bagshaw, Vice President, Chief Financial Officer and Treasurer of the Company, each hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, based on his knowledge:

(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 4, 2011

/s/ Leo Berlinghieri
Leo Berlinghieri
Chief Executive Officer and President

Dated: November 4, 2011

/s/ Seth H. Bagshaw
Seth H. Bagshaw
Vice President, Chief Financial Officer and Treasurer