# UNITED STATES <br> SECURITIES AND EXCHANGE COMMISSION <br> Washington, DC 20549 

FORM 10-Q
(MARK ONE)
凹 QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended June 30, 2014
or

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

$\qquad$ to $\qquad$
Commission file number 0-23621

## MKS INSTRUMENTS, INC.

(Exact name of registrant as specified in its charter)

## Massachusetts

(State or other jurisdiction of incorporation or organization)

04-2277512
(I.R.S. Employer

Identification No.)

2 Tech Drive, Suite 201, Andover, Massachusetts
(Address of principal executive offices)

01810
(Zip Code)

Registrant's telephone number, including area code (978) $\underline{645-5500}$

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 $\boxtimes$ No

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 $\mathbb{N}$ No

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 | $\boxed{ }$ | Accelerated filer |
| :--- | :--- | :--- |
| Non-accelerated filer | $\square$ (Do not check if a smaller reporting company) | Smaller reporting company |

Indicate by check mark whether the registrant is a shell company (as defined in Rule $12 \mathrm{~b}-2$ of the Exchange Act). Yes $\square$ No $\boxtimes$

As of July 30, 2014, the registrant had 53,044,049 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)

|  | June 30, 2014 | er 31, 2013 |  |
| :---: | :---: | :---: | :---: |
| ASSETS |  |  |  |
| Current assets: |  |  |  |
| Cash and cash equivalents | \$ 262,789 | \$ | 288,902 |
| Short-term investments | 202,128 |  | 300,715 |
| Trade accounts receivable, net | 101,487 |  | 116,744 |
| Inventories | 155,872 |  | 142,727 |
| Deferred income taxes | 10,618 |  | 13,428 |
| Other current assets | 28,707 |  | 16,715 |
| Assets classified as held for sale | 1,427 |  | - |
| Total current assets | 763,028 |  | 879,231 |
| Property, plant and equipment, net | 75,960 |  | 77,536 |
| Long-term investments | 80,912 |  | 60,405 |
| Goodwill | 193,050 |  | 150,909 |
| Intangible assets, net | 51,012 |  | 13,090 |
| Other assets | 33,939 |  | 31,847 |
| Total assets | \$1,197,901 | \$ | 1,213,018 |
| LIABILITIES AND STOCKHOLDERS' EQUITY |  |  |  |
| Current liabilities: |  |  |  |
| Accounts payable | \$ 26,654 | \$ | 40,074 |
| Accrued compensation | 22,443 |  | 43,662 |
| Income taxes payable | 4,168 |  | 10,444 |
| Other current liabilities | 39,507 |  | 34,242 |
| Total current liabilities | 92,772 |  | 128,422 |
| Other liabilities | 61,843 |  | 63,073 |
| Commitments and contingencies (Note 18) |  |  |  |
| Stockholders' equity: |  |  |  |
| Preferred Stock, \$0.01 par value per share, 2,000,000 shares authorized; none issued and outstanding | - |  | - |
| Common Stock, no par value, 200,000,000 shares authorized; $53,031,291$ and $53,363,450$ shares issued and outstanding at June 30, 2014 and December 31, 2013, respectively | 113 |  | 113 |
| Additional paid-in capital | 726,831 |  | 730,571 |
| Retained earnings | 303,277 |  | 278,966 |
| Accumulated other comprehensive income | 13,065 |  | 11,873 |
| Total stockholders' equity | 1,043,286 |  | 1,021,523 |
| Total liabilities and stockholders' equity | \$1,197,901 | \$ | 1,213,018 |

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

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

|  | Three Months Ended June 30, |  |  | Six Months Ended June 30, |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014 |  | 2013 | 2014 | 2013 |
| Net revenues: |  |  |  |  |  |
| Products | \$ 157,466 | \$ | 132,541 | \$ 338,652 | \$ 249,152 |
| Services | 27,231 |  | 24,387 | 52,398 | 49,421 |
| Total net revenues | 184,697 |  | 156,928 | 391,050 | 298,573 |
| Cost of revenues: |  |  |  |  |  |
| Cost of products | 87,513 |  | 79,206 | 187,724 | 149,781 |
| Cost of services | 17,549 |  | 15,764 | 34,319 | 32,132 |
| Total cost of revenues | 105,062 |  | 94,970 | 222,043 | 181,913 |
| Gross profit | 79,635 |  | 61,958 | 169,007 | 116,660 |
| Research and development | 15,421 |  | 16,813 | 31,039 | 32,061 |
| Selling, general and administrative | 32,239 |  | 34,849 | 66,830 | 68,982 |
| Insurance reimbursement | - |  | $(1,071)$ | - | $(1,071)$ |
| Acquisition costs | 271 |  | - | 499 | 171 |
| Restructuring | - |  | 198 | 747 | 238 |
| Amortization of intangible assets | 1,044 |  | 742 | 1,454 | 1,176 |
| Income from operations | 30,660 |  | 10,427 | 68,438 | 15,103 |
| Interest income | 243 |  | 234 | 495 | 539 |
| Interest expense | 12 |  | 23 | 29 | 37 |
| Income before income taxes | 30,891 |  | 10,638 | 68,904 | 15,605 |
| Provision for income taxes | 9,667 |  | 3,318 | 16,435 | 2,524 |
| Net income | \$ 21,224 | \$ | 7,320 | \$ 52,469 | \$ 13,081 |
| Other comprehensive income: |  |  |  |  |  |
| Changes in value of financial instruments designated as cash flow hedges, net of tax (benefit) expense(1) | \$ (682) | \$ | 56 | \$ (845) | \$ 1,076 |
| Foreign currency translation adjustments, net of tax of $\$ 0$ for the three months and six months ended June 30, 2014 and 2013 | 1,973 |  | (836) | 1,994 | $(9,175)$ |
| Unrealized gain (loss) on investments, net of tax expense (benefit)(2) | 7 |  | (36) | 43 | (61) |
| Total comprehensive income | \$ 22,522 | \$ | 6,504 | \$ 53,661 | \$ 4,921 |
| Net income per share: |  |  |  |  |  |
| Basic | \$ 0.40 | \$ | 0.14 | \$ 0.98 | \$ 0.25 |
| Diluted | \$ 0.40 | \$ | 0.14 | \$ 0.98 | \$ 0.25 |
| Cash dividends per common share | \$ 0.165 | \$ | 0.16 | \$ 0.325 | \$ 0.32 |
| Weighted average common shares outstanding: |  |  |  |  |  |
| Basic | 53,361 |  | 53,054 | 53,386 | 52,914 |
| Diluted | 53,537 |  | 53,358 | 53,657 | 53,359 |

(1) Tax (benefit) expense was $\$(428)$ and $\$ 56$ for the three months ended June 30,2014 and 2013, respectively. Tax (benefit) expense was $\$(536)$ and $\$ 652$ for the six months ended June 30, 2014 and 2013, respectively.
(2) Tax expense (benefit) was $\$ 4$ and $\$(36)$ for the three months ended June 30, 2014 and 2013, respectively. Tax expense (benefit) was $\$ 28$ and $\$(37)$ for the six months ended June 30, 2014 and 2013, respectively.

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

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## MKS INSTRUMENTS, INC.

## CONSOLIDATED STATEMENTS OF CASH FLOWS <br> (in thousands) <br> (Unaudited)

|  | Six Months Ended June 30, |  |
| :---: | :---: | :---: |
|  | 2014 | 2013 |
| Cash flows from operating activities: |  |  |
| Net income | \$ 52,469 | \$ 13,081 |
| Adjustments to reconcile net income to net cash provided by operating activities: |  |  |
| Depreciation and amortization | 8,965 | 8,470 |
| Stock-based compensation | 5,998 | 8,809 |
| Provision for excess and obsolete inventory | 5,532 | 7,372 |
| Provision for bad debt | 329 | 1,017 |
| Deferred income taxes | 1,396 | 2,845 |
| Excess tax benefits from stock-based compensation | (348) | (814) |
| Other | 24 | (16) |
| Changes in operating assets and liabilities: |  |  |
| Trade accounts receivable | 15,842 | $(16,345)$ |
| Inventories | $(11,804)$ | $(10,934)$ |
| Income taxes | $(17,209)$ | $(3,645)$ |
| Other current assets | $(3,749)$ | $(8,639)$ |
| Accrued compensation | $(19,662)$ | (44) |
| Other current and non-current liabilities | 4,518 | $(2,997)$ |
| Accounts payable | $(13,538)$ | 7,681 |
| Other assets | (949) | (195) |
| Net cash provided by operating activities | 27,814 | 5,646 |
| Cash flows from investing activities: |  |  |
| Acquisition of businesses, net of cash acquired | $(86,950)$ | $(2,058)$ |
| Purchases of investments | $(231,293)$ | $(226,377)$ |
| Maturities of investments | 154,505 | 156,306 |
| Sales of investments | 154,992 | 47,243 |
| Purchases of property, plant and equipment | $(7,255)$ | $(6,360)$ |
| Other | 135 | (59) |
| Net cash used in investing activities | $(15,866)$ | $(31,305)$ |
| Cash flows from financing activities: |  |  |
| Proceeds from short-term borrowings | - | 6 |
| Payments on short-term borrowings | - | (776) |
| Repurchase of common stock | $(20,809)$ | $(2,875)$ |
| Net payments related to employee stock awards | (11) | $(2,426)$ |
| Dividend payments to common stockholders | $(17,326)$ | $(16,951)$ |
| Excess tax benefits from stock-based compensation | 348 | 814 |
| Net cash used in financing activities | $(37,798)$ | $(22,208)$ |
| Effect of exchange rate changes on cash and cash equivalents | (263) | $(3,997)$ |
| Decrease in cash and cash equivalents | $(26,113)$ | $(51,864)$ |
| Cash and cash equivalents at beginning of period | 288,902 | 287,588 |
| Cash and cash equivalents at end of period | \$ 262,789 | \$ 235,724 |

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

## 1) Basis of Presentation

The terms "MKS" and the "Company" refer to MKS Instruments, Inc. and its subsidiaries. The interim financial data as of June 30, 2014 and for the three and six months ended June 30, 2014 and 2013 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, 2013 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, 2013 filed with the Securities and Exchange Commission on February 26, 2014.

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 May 2014 the Financial Accounting Standards Board issued Accounting Standards Update ("ASU") No. 2014-09, "Revenue from Contracts with Customers (Topic 606)," which supersedes all existing revenue recognition requirements, including most industry-specific guidance. The new standard requires a company to recognize revenue when it transfers goods and services to customers in an amount that reflects the consideration that the company expects to be entitled to in exchange for those goods or services. The ASU also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and assets recognized from costs incurred to obtain or fulfill a contract. This pronouncement is effective for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period. The two permitted transition methods under the new standard are the full retrospective method, in which case the standard would be applied to each prior reporting period presented, or the modified retrospective method, in which case the cumulative effect of applying the standard would be recognized at the date of initial application. The Company has not yet selected a transition method. The Company is currently evaluating the requirements of ASU No. 2014-09 and has not yet determined its impact on the Company's consolidated financial statements.

## 3) Investments

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

|  | June 30, 2014 |  | December 31, 2013 |  |
| :---: | :---: | :---: | :---: | :---: |
| Available-for-sale investments: |  |  |  |  |
| Bankers’ acceptance drafts | \$ | 968 | \$ | 491 |
| Time deposits and certificates of deposit |  | 69,266 |  | 64,989 |
| Commercial paper |  | 27,180 |  | 53,434 |
| Corporate obligations |  | 12,880 |  | 18,351 |
| U.S. agency obligations |  | 91,834 |  | 162,450 |
|  | \$ | 202,128 | \$ | 299,715 |
| Trading investments: |  |  |  |  |
| Mutual funds |  | - |  | 1,000 |
|  | \$ | 202,128 | \$ | 300,715 |

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## MKS INSTRUMENTS, INC.

## NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data)
The fair value of long-term investments with maturities of more than one year consists of the following:

| Available-for-sale investments: | June 30, 2014 |  | December 31, 2013 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| Time deposits | \$ | 54 | \$ | 54 |
| Asset-backed securities |  | 26,411 |  | - |
| Corporate obligations |  | 36,341 |  | - |
| U.S. agency obligations |  | 18,106 |  | 60,351 |
|  | \$ | 80,912 | \$ | 60,405 |

The following tables show the gross unrealized gains and (losses) aggregated by investment category for short-term and long-term available-for-sale investments:

| As of June 30, 2014: |  | Cost | Gross Unrealized Gains |  | GrossUnrealized(Losses) |  | Estimated Fair Value |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Short-term investments: |  |  |  |  |  |  |  |  |
| Bankers' acceptance drafts | \$ | 968 | \$ | - | \$ | - |  | \$ 968 |
| Time deposits and certificates of deposit |  | 69,264 |  | 5 |  | (3) |  | 69,266 |
| Commercial paper |  | 27,176 |  | 4 |  | - |  | 27,180 |
| Corporate obligations |  | 12,880 |  | 1 |  | (1) |  | 12,880 |
| U.S. agency obligations |  | 91,798 |  | 36 |  | - |  | 91,834 |
|  |  | 202,086 | \$ | 46 | \$ |  |  | \$202,128 |
| Long-term investments: |  |  |  |  |  |  |  |  |
| Time deposits | \$ | 54 | \$ | - | \$ | - |  | \$ 54 |
| Asset-backed securities |  | 26,398 |  | 20 |  | (7) |  | 26,411 |
| Time deposits |  | 36,354 |  | 5 |  | (18) |  | 36,341 |
| U.S. agency obligations |  | 18,082 |  | 24 |  | - |  | 18,106 |
|  |  | $\underline{ }$ | \$ |  | \$ |  |  | \$ 80,912 |
| As of December 31, 2013: |  | Cost |  |  |  |  |  | Estimated <br> Fair Value |
| Short-term investments: |  |  |  |  |  |  |  |  |
| Bankers' acceptance drafts | \$ | 491 | \$ | - | \$ | - |  | \$ 491 |
| Time deposits and certificates of deposit |  | 64,983 |  | 10 |  | (4) |  | 64,989 |
| Commercial paper |  | 53,429 |  | 5 |  | - |  | 53,434 |
| Corporate obligations |  | 18,360 |  | - |  | (9) |  | 18,351 |
| U.S. agency obligations |  | 162,430 |  | 22 |  | (2) |  | 162,450 |
|  |  | $\underline{ }$ | \$ | 37 | \$ | (15) |  | \$299,715 |
| Long-term investments: |  |  |  |  |  |  |  |  |
| Time Deposits | \$ | 54 | \$ | - | \$ | - |  | \$ 54 |
| U.S. agency obligations |  | 60,374 |  | 9 |  | (32) |  | 60,351 |
|  |  | $\xrightarrow{60,428}$ | \$ | 9 | \$ | (32) |  | \$ 60,405 |

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. Realized gains or (losses) are reflected in income and were not material for the three and six months ended June 30, 2014 and 2013, respectively.

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## MKS INSTRUMENTS, INC. <br> NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data)
The gains and losses for trading investments were immaterial for the three and six months ended June 30, 2014 and 2013.
In accordance with the Company's investment policy, no security shall be of a maturity or average life longer than three years. The average duration of the portfolio shall be no more than one year. Corporate securities must have ratings of A3/A- or better. Asset-backed securities must be rated AAA. Short-term ratings of A-2/P2/F2 or higher are also permitted. With respect to compliance with these investment guidelines the rating agencies include Moody's Investor Service, Standard \& Poor's and Fitch Investor Service. The middle of Moody's, Standard \& Poor’s and Fitch rating shall be used to determine compliance with credit quality guidelines. If a security is rated by two rating agencies agencies, the lower rating will apply. If only one rating exists, that rating shall be used.

## 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 assessed 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 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 exchangetraded instruments or securities or derivative contracts that are valued using a pricing model with inputs that are observable in the market or can be derived principally from or corroborated by observable market data.
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.
In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, the Company categorizes such assets and liabilities based on the lowest level input that is significant to the fair value measurement in its entirety. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the asset or liability.

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## MKS INSTRUMENTS, INC.

## NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data)
Assets and liabilities of the Company are measured at fair value on a recurring basis as of June 30, 2014 and are summarized as follows:

| Description |  |  | Fair Value $M$ <br> Quoted Prices in <br> Atcive Markets <br> for Identical <br> Assets <br> (Level 1) |  |  | ts at Repo | ate |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\begin{aligned} & \text { gnificant } \\ & \text { Other } \\ & \text { servable } \\ & \text { Inputs } \\ & \text { Level 2) } \\ & \hline \end{aligned}$ | SignificantUnobservableInputs(Level 3) |  |
| Assets: |  |  |  |  |  |  |  |  |
| Cash equivalents: |  |  |  |  |  |  |  |  |
| Money market funds | \$ | 22,167 |  |  | \$ | 22,167 | \$ | - | \$ | - |
| Time deposits and certificates of deposit |  | 10,700 |  | - |  | 10,700 |  | - |
| Bankers' acceptance drafts |  | 63 |  | - |  | 63 |  | - |
| Available-for-sale securities: |  |  |  |  |  |  |  |  |
| Bankers' acceptance drafts |  | 968 |  | - |  | 968 |  | - |
| Time deposits and certificates of deposit |  | 69,320 |  | - |  | 69,320 |  | - |
| Commercial paper |  | 27,180 |  | - |  | 27,180 |  | - |
| Asset-backed securities |  | 26,411 |  | - |  | 26,411 |  | - |
| Corporate obligations |  | 49,221 |  | - |  | 49,221 |  | - |
| U.S. agency obligations |  | 109,940 |  | - |  | 09,940 |  | - |
| Derivatives - currency forward contracts |  | 44 |  | - |  | 44 |  | - |
| Total assets | \$ | 316,014 | \$ | 22,167 |  | 293,847 | \$ | - |
| Liabilities: |  |  |  |  |  |  |  |  |
| Derivatives - currency forward contracts | \$ | 1,161 | \$ | - |  | 1,161 | \$ | - |
| Reported as follows: |  |  |  |  |  |  |  |  |
| Assets: |  |  |  |  |  |  |  |  |
| Cash and cash equivalents(1) | \$ | 32,930 | \$ | 22,167 |  | 10,763 | \$ | - |
| Short-term investments |  | 202,128 |  | - |  | 202,128 |  | - |
| Other current assets |  | 44 |  | - |  | 44 |  | - |
| Total current assets | \$ | 235,102 | \$ | 22,167 |  | 12,935 | \$ | - |
| Long-term investments | \$ | 80,912 | \$ | - |  | 80,912 | \$ | - |
| Liabilities: |  |  |  |  |  |  |  |  |
| Other current liabilities |  | 1,161 | \$ | - |  | 1,161 | \$ | - |

(1) The cash and cash equivalent amounts presented in the table above do not include cash of $\$ 222,590$ and non-negotiable time deposits of $\$ 7,269$ as of June 30, 2014.

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## MKS INSTRUMENTS, INC.

## NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data)
Assets and liabilities of the Company are measured at fair value on a recurring basis as of December 31, 2013 and are summarized as follows:

(1) The cash and cash equivalent amounts presented in the table above do not include cash of $\$ 234,675$ and non-negotiable time deposits of $\$ 5,629$ as of December 31, 2013.

## Money Market Funds

Money market funds are cash and cash equivalents and are classified within Level 1 of the fair value hierarchy.

## Trading Securities

As of December 31, 2013, trading securities consisted of certain U.S. and international equity mutual funds and government agency fixed income mutual funds.

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## MKS INSTRUMENTS, INC. NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data)

## Bankers’ Acceptance Drafts

Bankers' acceptance drafts are short-term credit investments created by a non-financial firm and guaranteed by a bank. These drafts are often traded at a discount from face value and may be traded on a secondary market.

## Available-For-Sale Investments

Available-for-sale investments consisted of time deposits and drafts denominated in the Euro currency, commercial paper, certificates of deposit, assetbacked securities which include auto loans, credit card receivables, equipment trust receivables, corporate obligations and U.S. agency obligations. The Company measures its debt and equity investments at fair value.

## 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.
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, Euro and Taiwan 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.

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## MKS INSTRUMENTS, INC.

## NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data)
As of June 30, 2014 and December 31, 2013, the Company had outstanding forward foreign exchange contracts with gross notional values of \$48,667 and $\$ 21,018$, respectively. The following tables provide a summary of the primary net hedging positions and corresponding fair values held as of June 30, 2014 and December 31, 2013:

| Currency Hedged (Buy/Sell) | June 30, 2014 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \hline \text { Gross Notional } \\ & \quad \text { Value } \end{aligned}$ |  | $\begin{gathered} \text { Fair Value(1) } \\ \text { Asset/(Liability) } \end{gathered}$ |  |
| U.S. Dollar/Japanese Yen | \$ | 16,170 | \$ | (194) |
| U.S. Dollar/South Korean Won |  | 17,742 |  | (758) |
| U.S. Dollar/Euro |  | 4,188 |  | (11) |
| U.S. Dollar/U.K. Pound Sterling |  | 2,340 |  | (67) |
| U.S. Dollar/Taiwan Dollar |  | 8,227 |  | (87) |
| Total | \$ | 48,667 | \$ | $(1,117)$ |

(1) Represents the fair value of the net asset / (liability) amount included in the consolidated balance sheets.

| Currency Hedged (Buy/Sell) | December 31, 2013 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Gross Notional |  | Fair Value(1)Asset/(Liability) |  |
| U.S. Dollar/Japanese Yen | \$ | 7,191 | \$ | 920 |
| U.S. Dollar/South Korean Won |  | 9,254 |  | (521) |
| U.S. Dollar/Euro |  | 2,806 |  | (85) |
| U.S. Dollar/U.K. Pound Sterling |  | 1,767 |  | (50) |
| Total | \$ | 21,018 | \$ | 264 |

(1) Represents the fair value of the net asset / (liability) 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 | June 30, 2014 |  | December 31, 2013 |  |
| :---: | :---: | :---: | :---: | :---: |
| Derivative assets: |  |  |  |  |
| Forward exchange contracts | \$ | 44 | \$ | 920 |
| Derivative liabilities: |  |  |  |  |
| Forward exchange contracts |  | $(1,161)$ |  | (656) |
| Total net derivative asset (liability) designated as hedging instruments(1) | \$ | $(1,117)$ | \$ | 264 |

(1) The derivative asset of $\$ 44$ and derivative liability of $\$ 1,161$ are classified in other current assets and other current liabilities, respectively, in the consolidated balance sheet as of June 30, 2014. The derivative asset of $\$ 920$ and derivative liability of $\$ 656$ are classified in other current assets and other current liabilities, respectively, in the consolidated balance sheet as of December 31, 2013. These foreign exchange contracts are subject to a master netting agreement with one financial institution. However, the Company has elected to record these contracts on a gross basis in the balance sheet.

The net amount of existing losses as of June 30, 2014 that is expected to be reclassified from accumulated OCI into earnings within the next twelve months is immaterial.

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 June 30, |  |  |  | Six Months Ended June 30, |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2014 |  | 013 |  | 2014 |  | 2013 |
| Forward exchange contracts: |  |  |  |  |  |  |  |  |
| Net (loss) gain recognized in OCI(1) | \$ | $(1,230)$ | \$ | (257) | \$ | $(1,564)$ | \$ | 1,359 |
| Net (loss) gain reclassified from OCI into income(2) | \$ | (76) | \$ | 602 | \$ | (151) | \$ | 805 |

(1) Net change in the fair value of the effective portion classified in OCI.
(2) Effective portion classified in cost of products for the three and six months ended June 30, 2014 and 2013.

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## MKS INSTRUMENTS, INC.

## NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data)
The following table provides a summary of (losses) gains on derivatives not designated as hedging instruments:

| Derivatives Not Designated as Hedging Instruments | Three Months Ended June 30, |  |  |  | Six Months Ended June 30, |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014 |  | 2013 |  | 2014 |  | 2013 |  |
| Forward exchange contracts: |  |  |  |  |  |  |  |  |
| Net (loss) gain recognized in income ${ }^{(1)}$ | \$ | (204) | \$ | 163 | \$ | (98) | \$ | 654 |

(1) The Company had a forward foreign exchange contract that hedged an intercompany loan with its Korean subsidiary, which expired during the three months ended June 30, 2014. This hedge did not qualify for hedge accounting and any gains (losses) were recorded immediately in selling, general and administrative expenses.
6) Inventories

Inventories consist of the following:

|  | June 30, 2014 |  | December 31, 2013 |  |
| :---: | :---: | :---: | :---: | :---: |
| Raw materials | \$ | 81,270 | \$ | 75,687 |
| Work-in-process |  | 26,416 |  | 24,304 |
| Finished goods |  | 48,186 |  | 42,736 |
|  | \$ | 155,872 | \$ | 142,727 |

## 7) Acquisitions

## Granville-Phillips

On May 30, 2014, the Company acquired Granville-Phillips ("GP"), a division of Brooks Automation, Inc. ("Brooks"), for $\$ 87,000$, which includes $\$ 86,950$ in cash and $\$ 50$ in contingent consideration. MKS will pay contingent consideration if it does not cease use of certain of Brooks' administrative services by a pre-defined date in accordance with a transition services agreement. Granville-Phillips is a leading global provider of vacuum measurement and control instruments to the semiconductor, thin film and general industrial markets with sales of approximately $\$ 30,000$ in 2013. The Company believes that the amount of goodwill relative to identifiable intangible assets relates to several factors including: a well-regarded leader in indirect vacuum gauges, a premium brand, an excellent reputation for quality, reliability and performance and assembled workforce. The acquisition aligns with the Company's current strategy to grow its semiconductor business, while diversifying into other high growth advanced markets.
The following table summarizes the preliminary estimated fair value of the assets acquired and liabilities assumed at the date of acquisition:

| Inventory | $\$ 6,223$ |
| :--- | ---: |
| Other assets | 490 |
| Intangible assets | 39,050 |
| Goodwill | 41,412 |
| Warranty liability | $\underline{(175)}$ |
| Total purchase price | $\underline{\underline{\$ 87,000}}$ |

The entire purchase price is expected to be deductible for tax purposes. The following table reflects the allocation of the acquired intangible assets and related estimates of useful lives. These acquired intangibles will be amortized on a straight-line basis.

| Customer relationships | $\$ 21,250$ | 7 years |
| :--- | ---: | ---: |
| Trademark and trade names | 2,100 | 12 years |
| Current developed technology | $\underline{15,700}$ | $9-12$ years |
|  | $\underline{\$ 39,050}$ |  |

The results of this acquisition were included in the Company's consolidated operations beginning on May 30, 2014. The pro forma consolidated statements reflecting the operating results of GP, had it been acquired January 1, 2014, would not differ materially from the operating results of the Company as reported for the three and six months ended June 30, 2014. GP is included in the Company's Instruments, Control and Vacuum Products group and the Advanced Manufacturing Capital Equipment reportable segment.

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## 8) Goodwill and Intangible Assets

## Goodwill

The Company's methodology for allocating the purchase price relating to purchase acquisitions is determined through established and generally accepted valuation techniques. Goodwill is measured as the excess of the cost of the acquisition over the sum of the amounts assigned to tangible and identifiable intangible assets acquired less liabilities assumed. The Company assigns assets acquired (including goodwill) and liabilities assumed to one or more reporting units as of the date of acquisition. Typically acquisitions relate to a single reporting unit and thus do not require the allocation of goodwill to multiple reporting units. If the products obtained in an acquisition are assigned to multiple reporting units, the goodwill is distributed to the respective reporting units as part of the purchase price allocation process.

Goodwill and purchased intangible assets with indefinite useful lives are not amortized, but are reviewed for impairment annually during the fourth quarter of each fiscal year and whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. The process of evaluating the potential impairment of goodwill and intangible assets requires significant judgment. The Company regularly monitors current business conditions and other factors including, but not limited to, adverse industry or economic trends, restructuring actions and lower projections of profitability that may impact future operating results.

As of October 31, 2013, the Company performed its annual impairment assessment of goodwill and determined that there was no impairment.
The changes in the carrying amount of goodwill and accumulated impairment (loss) during the six months ended June 30, 2014 and twelve months ended December 31, 2013 were as follows:

|  | 2014 |  |  | 2013 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Gross Carrying Amount | Accumulated Impairment (Loss) | Net | Gross <br> Carrying <br> Amoun | $\begin{aligned} & \text { Accumulated } \\ & \text { Impairment } \\ & \text { (Loss) } \end{aligned}$ | Net |
| Beginning balance at January 1 | \$290,323 | \$(139,414) | \$150,909 | \$290,147 | \$(139,414) | \$150,733 |
| Acquired goodwill(1) | 41,793 | - | 41,793 | - | - | - |
| Foreign currency translation | 348 | - | 348 | 176 | - | 176 |
| Ending balance at June 30, 2014 and December 31, 2013 | $\underline{\underline{\$ 332,464}}$ | $\underline{\underline{\text { (139,414 }}}$ | $\underline{\underline{\$ 193,050}}$ | $\underline{\underline{\$ 290,323}}$ | \$(139,414) | $\underline{\underline{\$ 150,909}}$ |

(1) During the second quarter of 2014, the Company recorded $\$ 41,412$ of goodwill related to the May $30,2014 \mathrm{GP}$ acquisition. During the first quarter of 2014, the Company recorded a purchase accounting adjustment for $\$ 381$ related to the March 12, 2013 purchase of Alter S.r.l.

Goodwill associated with each of our reportable segments is as follows:

| Reportable segment: | June 30, 2014 | December 31, 2013 |  |
| :--- | :---: | ---: | ---: |
| Advanced Manufacturing Capital Equipment | $\$ 184,382$ | $\$$ | 142,241 |
| Analytical Solutions Group | 8,668 | 8,668 |  |
| Europe Region Sales \& Service | - | - |  |
| Asia Region Sales \& Service | - | - |  |
| Total goodwill | $\underline{\$ 193,050}$ | $\boxed{\$ 150,909}$ |  |

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## MKS INSTRUMENTS, INC.

## NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data)

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

| As of June 30, 2014: | Gross | Accumulated Amortization | ForeignCurrencyTranslation |  | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Completed technology(1) | \$100,380 | \$ (78,640) | \$ | 662 | \$22,402 |
| Customer relationships(1) | 35,821 | $(10,581)$ |  | 631 | 25,871 |
| Patents, trademarks, trade names and other(1) | 27,736 | $(25,087)$ |  | 90 | 2,739 |
|  | $\underline{\underline{\$ 163,937}}$ | \$(114,308) | \$ | 1,383 | $\underline{\underline{\$ 51,012}}$ |

(1) During the second quarter of 2014, the Company recorded $\$ 39,050$ of separately identified intangible assets of which $\$ 15,700$ was completed technology, $\$ 21,250$ was customer relationships and $\$ 2,100$ was trademarks and trade names, relating to the May 30, 2014 GP acquisition.


Aggregate amortization expense related to acquired intangibles for the three and six months ended June 30, 2014 were $\$ 1,044$ and $\$ 1,454$, respectively. Aggregate amortization expense related to acquired intangibles for the three and six months ended June 30, 2013 were $\$ 742$ and $\$ 1,176$, respectively. Estimated amortization expense for each of the remaining fiscal years is as follows:

| Year | $\frac{\text { Amount }}{}$ |
| :--- | ---: |
| 2014 (remaining) | $\$ 3,590$ |
| 2015 | 6,615 |
| 2016 | 6,346 |
| 2017 | 6,314 |
| 2018 | 6,305 |
| Thereafter | 21,842 |

9) Other Assets

|  | June 30, 2014 |  | December 31, 2013 |  |
| :---: | :---: | :---: | :---: | :---: |
| Other Assets: |  |  |  |  |
| Deferred tax assets, net | \$ | 10,480 | \$ | 9,208 |
| Other |  | 23,459 |  | 22,639 |
| Total other assets | \$ | 33,939 | \$ | 31,847 |

10) Other Liabilities

|  | June 30, 2014 |  | December 31, 2013 |  |
| :---: | :---: | :---: | :---: | :---: |
| Other Current Liabilities: |  |  |  |  |
| Product warranties | \$ | 7,117 | \$ | 6,956 |
| Deferred revenue |  | 6,186 |  | 5,556 |
| Other |  | 26,204 |  | 21,730 |
| Total other current liabilities | \$ | 39,507 | \$ | 34,242 |

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

| Other Liabilities: | $\$ 44,039$ | $\$ 46,745$ |
| :--- | ---: | ---: | ---: |
| Long-term income tax payable | 11,187 | 9,646 |
| Accrued compensation | $\underline{6,617}$ | $\underline{6,682}$ |
| Other | $\underline{\underline{\$ 61,843}}$ | $\underline{\underline{\$ 63,073}}$ |
| Total other liabilities |  |  |

11) Debt

The Company's Japanese subsidiary has lines of credit and short-term borrowing arrangements with two financial institutions which generally expire and are renewed at three month intervals. The lines of credit provide for aggregate borrowings as of June 30, 2014 of up to an equivalent of $\$ 22,609$ U.S. dollars. One of the borrowing arrangements has an interest rate based on the Tokyo Interbank Offer Rate at the time of borrowing and the other has an interest rate based on the Japanese Short-term Prime Lending Rate. There were no borrowings outstanding under these arrangements at June 30, 2014 and December 31, 2013.

## 12) 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:

|  | Six Months Ended June 30, |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 2014 |  | 2013 |  |
| Beginning of period | \$ | 6,956 | \$ | 8,266 |
| Provision for product warranties |  | 1,589 |  | 1,251 |
| Direct charges to warranty liability |  | $(1,476)$ |  | $(2,206)$ |
| Foreign currency translation |  | 48 |  | (136) |
| End of period | \$ | 7,117 | \$ | 7,175 |

## 13) Income Taxes

The Company's effective tax rate for the three and six months ended June 30 , 2014 was $31.3 \%$ and $23.9 \%$, respectively. The effective tax rate for the three months ended June 30, 2014 was lower than the U.S. statutory rate due to the impact of lower tax rates on foreign income and the deduction for domestic production activities. The effective tax rate was lower in the six months ended June 30, 2014 primarily due to the discrete release of income tax reserves related to the effective settlement of a foreign tax examination in the quarter ended March 31, 2014. 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 and the deduction for domestic production activities also had a significant impact in reducing the effective tax rate in the six month period. The Company's effective tax rate for the three and six months ended June 30, 2013 was $31.2 \%$ and $16.2 \%$, respectively. The effective tax rate for the six months ended June 30, 2013, and related tax expense was lower than the U.S. statutory rate due to certain tax incentives realized by the Company, and recognized as discrete events in the quarter ended March 31, 2013. These incentives were reinstated under The American Taxpayer Relief Act of 2012 that was signed into law on January 2, 2013.

At June 30, 2014, the total amount of gross unrecognized tax benefits, which excludes interest and penalties, was approximately $\$ 42,794$. At December 31, 2013, the total amount of gross unrecognized tax benefits, which excludes interest and penalties, was approximately $\$ 47,684$. The net decrease from December 31, 2013 was primarily attributable to a release in reserves for uncertain tax positions due to the effective settlement of a foreign tax examination during the quarter ended March 31, 2014. As of June 30, 2014, if these benefits were recognized in a future period, the timing of which is not estimable, the net unrecognized tax benefit of $\$ 20,536$, excluding interest and penalties, would impact the Company's effective tax rate. 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 June 30, 2014, and December 31, 2013, the Company had accrued interest on unrecognized tax benefits of approximately $\$ 1,961$ and $\$ 2,159$, respectively.

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## MKS INSTRUMENTS, INC.

## NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS <br> (in thousands, except share and per share data)

The Company and its subsidiaries are subject to examination by federal, state and foreign tax authorities. The Internal Revenue Service commenced an examination of the Company's U.S. federal tax filings for tax years 2007 through 2009 during the quarter ended June 30, 2012. As a result, the U.S. statute of limitations remains open between tax years 2007 through the present. However, carryforward amounts from prior years may still be adjusted upon examination by tax authorities if they are used in a future period. The statute of limitations for the Company's tax filings in other jurisdictions varies between fiscal years 2007 through the 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 law and regulations. Additionally, the recognition and measurement of certain tax benefits includes estimates and judgments by management. Accordingly, the Company may record additional provisions or benefits due to U.S. federal, state, and foreign tax-related matters in the future as it obtains new information or settles or otherwise resolves the underlying matters.

## 14) Net Income Per Share

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

|  | Three Months EndedJune 30, |  |  |  | Six Months EndedJune 30, |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014 |  | 2013 |  | 2014 |  | 2013 |  |
| Numerator: |  |  |  |  |  |  |  |  |
| Net income | \$ | 21,224 | \$ | 7,320 | \$ | 52,469 | \$ | 13,081 |
| Denominator: |  |  |  |  |  |  |  |  |
| Shares used in net income per common share - basic |  | 53,361,000 |  | 53,054,000 |  | 53,386,000 |  | 52,914,000 |
| Effect of dilutive securities: |  |  |  |  |  |  |  |  |
| Stock options, restricted stock and employee stock purchase plan |  | 176,000 |  | 304,000 |  | 271,000 |  | 445,000 |
| Shares used in net income per common share - diluted |  | 53,537,000 |  | 53,358,000 |  | 53,657,000 |  | 53,359,000 |
| Net income per common share: |  |  |  |  |  |  |  |  |
| Basic | \$ | 0.40 | \$ | 0.14 | \$ | 0.98 | \$ | 0.25 |
| Diluted | \$ | 0.40 | \$ | 0.14 | \$ | 0.98 | \$ | 0.25 |

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## MKS INSTRUMENTS, INC.

## NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data)
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 June 30, 2014, stock options and restricted stock units relating to an aggregate of approximately 830,000 shares were outstanding. For the three and six months ended June 30, 2014, the potential dilutive effect of approximately 90 and 800 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 June 30, 2013, stock options and restricted stock units relating to an aggregate of approximately 1,083,000 shares were outstanding. For the three and six months ended June 30, 2013, the potential dilutive effect of approximately 102,000 and 100,000 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.

## 15) Stockholder's Equity.

## 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 depends 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 six months ended June 30, 2014, the Company repurchased approximately 728,000 shares of its common stock for $\$ 20,809$, or an average price of $\$ 28.59$ per share.

## Cash Dividends

Holders of the Company's common stock are entitled to receive dividends when they are declared by the Company's Board of Directors. During the six months ended June 30, 2014, the Board of Directors authorized a cash dividend of $\$ 0.16$ per share during the first quarter of 2014 and a cash dividend of $\$ 0.165$ during the second quarter of 2014, which totaled $\$ 17,326$.

On July 28, 2014, our Board of Directors declared a quarterly cash dividend of $\$ 0.165$ per share to be paid on September 12, 2014 to shareholders of record as of September 2, 2014. Future dividend declarations, if any, as well as the record and payment dates for such dividends, are subject to the final determination of the Company's Board of Directors.

## 16) Business Segment, Geographic Area, Product and Significant Customer Information

The Company develops, manufactures, sells and services products that measure, control, power and monitor critical parameters of advanced manufacturing processes. The Company's Chief Operating Decision Maker ("CODM") utilizes consolidated financial information to make decisions about allocating resources and assessing performance for the entire Company. In addition, certain disaggregated financial information is also provided to the CODM. Based upon the information provided to the CODM, the Company has determined it has eight operating segments and four reportable segments.

The eight operating segments are PFMC Products, Controls Products, ASTeX Products, ENI Products, HPS Products (Vacuum Products), Analytical Solutions Group, Europe Region Sales \& Service and Asia Region Sales \& Service.

PFMC Products, Controls Products, ASTeX Products, ENI Products and HPS Products comprise a single reportable segment due to the similarities of the operating segments. This reportable segment, Advanced Manufacturing Capital Equipment, includes the development, manufacturing, sales and servicing of instruments and control products, power and reactive gas products, and vacuum products, all of which are utilized in semiconductor processing and other similar advanced manufacturing processes. Sales in this segment include both external sales and intercompany sales (which are stated at agreed upon transfer prices). External sales of these products made in Europe or Asia are reported as sales in the Europe Region Sales \& Service or Asia Region Sales \& Service segments.

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## MKS INSTRUMENTS, INC.

## NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data)
Analytical Solutions Group, Asia Region Sales \& Service and Europe Region Sales \& Service are each separate reportable segments. The Company has reported corporate expenses and certain intercompany pricing transactions in a Corporate, Eliminations and Other reconciling column. The Analytical Solutions Group includes gas composition analysis and information technology products. The Europe and Asia region sales and service segments mainly resell and service the Advanced Manufacturing Capital Equipment and Analytical Solutions Group products sold in their respective regions.

MKS derives the segment results directly from the manner in which results are reported in its management reporting system. The accounting policies MKS uses to derive reportable segment results are substantially the same as those used for external reporting purposes except that a substantial portion of the sales of the Advanced Manufacturing Capital Equipment and Analytical Solutions Group segments are intercompany sales to the regions at taxbased transfer prices and certain significant costs, including stock-based compensation and management incentive compensation, are not allocated to the segments and are included in Corporate, Eliminations and Other. The CODM reviews several metrics of each operating segment, including net revenues and gross profit (loss).

The following is net revenues by reportable segment:

|  | Three Months Ended June 30, |  |  |  | Six Months Ended June 30, |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2014 |  | 2013 | 2014 | 2013 |
| Advanced Manufacturing Capital Equipment | \$ | 150,739 | \$ | 124,487 | \$ 319,936 | \$229,297 |
| Analytical Solutions Group |  | 15,300 |  | 13,508 | 29,470 | 27,904 |
| Europe Region Sales \& Service Operations(1) |  | 12,656 |  | 11,803 | 27,042 | 22,851 |
| Asia Region Sales \& Service Operations(1) |  | 55,815 |  | 49,566 | 122,498 | 96,709 |
| Corporate, Eliminations and Other |  | $(49,813)$ |  | $(42,436)$ | $(107,896)$ | $(78,188)$ |
|  | \$ | 184,697 | \$ | 156,928 | \$ 391,050 | \$298,573 |

(1) The Europe and Asia foreign sales and service operations do not represent total geographical Europe and Asia financial information. These sales and service operations mainly represent the sales from the resale and service of Advanced Manufacturing Capital Equipment and Analytical Solutions Group products in their respective regions. The Advanced Manufacturing Capital Equipment and Analytical Solutions Group segments both have sales in each region. Accordingly, total geographical sales include sales from multiple reportable segments.

The following is gross profit by reportable segment:

|  | Three Months Ended June 30, |  |  |  | Six Months Ended June 30, |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014 |  | 2013 |  | 2014 |  | 2013 |
| Advanced Manufacturing Capital Equipment | \$ | 61,548 | \$ | 43,660 | \$ 129,162 | \$ | 78,496 |
| Analytical Solutions Group |  | 7,853 |  | 7,033 | 14,399 |  | 14,481 |
| Europe Region Sales \& Service Operations(1) |  | 3,622 |  | 3,387 | 7,861 |  | 6,578 |
| Asia Region Sales \& Service Operations(1) |  | 9,641 |  | 10,954 | 22,665 |  | 19,786 |
| Corporate, Eliminations and Other |  | $(3,029)$ |  | $(3,076)$ | $(5,080)$ |  | $(2,681)$ |
|  | \$ | 79,635 | \$ | 61,958 | \$ 169,007 |  | 16,660 |

(1) The Europe and Asia foreign sales and service operations do not represent total geographical Europe and Asia financial information. These sales and service operations mainly represent the sales from the resale and service of Advanced Manufacturing Capital Equipment and Analytical Solutions Group products in their respective regions. The Advanced Manufacturing Capital Equipment and Analytical Solutions Group segments both have sales in each region. Accordingly, total geographical sales include sales from multiple reportable segments.

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MKS INSTRUMENTS, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS
(in thousands, except share and per share data)
The following is capital expenditures by reportable segment for the three and six months ended June 30, 2014 and 2013:

|  | Product Groups |  |  |  | Foreis Sales \& Service Operations |  |  | ions | Corporate, Eliminations and Other |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Advanced Manufacturing Capital Equipment |  | Analytical Solutions Group |  | Europe |  | Asia |  |  |  |  |  |
| Three Months Ended June 30, 2014: |  |  |  |  |  |  |  |  |  |  |  |  |
| Capital expenditures | \$ | 2,232 | \$ | 788 | \$ | 12 | \$ | 131 | \$ | 994 | \$ | 4,157 |
| Six Months Ended June 30, 2014: |  |  |  |  |  |  |  |  |  |  |  |  |
| Capital expenditures | \$ | 3,941 | \$ | 1,802 | \$ | 27 | \$ | 253 | \$ | 1,232 | \$ | 7,255 |
|  | Product Groups |  |  |  | Foreign Sales \& Service Operations |  |  |  | Corporate, Eliminations and Other |  |  |  |
|  | Advanced <br> Manufacturing <br> Capital <br> Equipment |  | Analytical Solutions Group |  | Europe |  | Asia |  |  |  | Total |  |
| Three Months Ended June 30, 2013: |  |  |  |  |  |  |  |  |  |  |  |  |
| Capital expenditures | \$ | 2,094 | \$ | 29 | \$ | 98 | \$ | 133 | \$ | 650 | \$ | 3,004 |
| Six Months Ended June 30, 2013: |  |  |  |  |  |  |  |  |  |  |  |  |
| Capital expenditures | \$ | 4,706 | \$ | 140 | \$ | 113 | \$ | 196 | \$ | 1,205 | \$ | 6,360 |

The following is depreciation and amortization by reportable segment for the three and six months ended June 30, 2014 and 2013:

|  | Product Groups |  |  |  |  | les \& | rvi | ions | Corporate, Eliminationsand Other and Other |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Advanced <br> Manufacturing <br> Capital <br> Equipment |  | Analytical Solutions Group |  | Europe |  | Asia |  |  |  |  |  |
| Three Months Ended June 30, 2014: |  |  |  |  |  |  |  |  |  |  |  |  |
| Depreciation and amortization | \$ | 3,512 | \$ | 261 | \$ | 85 | \$ | 290 | \$ | 667 | \$ | 4,815 |
| Six Months Ended June 30, 2014: |  |  |  |  |  |  |  |  |  |  |  |  |
| Depreciation and amortization | \$ | 6,423 | \$ | 476 | \$ | 175 | \$ | 579 | \$ | 1,312 | \$ | 8,965 |
|  | Product Groups |  |  |  | Foreign Sales \& Service Operations |  |  |  | Corporate, Eliminations and Other |  | Total |  |
|  | Advanced Manufacturing Capital <br> Capital <br> Equipment |  | Analytical Solutions Group |  | Europe |  | Asia |  |  |  |  |  |
| Three Months Ended June 30, 2013: |  |  |  |  |  |  |  |  |  |  |  |  |
| Depreciation and amortization | \$ | 3,071 | \$ | 307 | \$ | 81 | \$ | 288 | \$ | 631 | \$ | 4,378 |
| Six Months Ended June 30, 2013: |  |  |  |  |  |  |  |  |  |  |  |  |
| Depreciation and amortization | \$ | 5,958 | \$ | 604 | \$ | 174 | \$ | 582 | \$ | 1,152 | \$ | 8,470 |

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MKS INSTRUMENTS, INC.

## NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data)
The following is segment assets by reportable segment:

|  | Product Groups |  |  |  | Foreign Sales \& Service Operations |  |  |  | Corporate, <br> Eliminations and Other |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | dvanced nufacturing Capital quipment | Analytical Solutions Group |  | Europe |  | Asia |  |  |  |  |
| June 30, 2014: |  |  |  |  |  |  |  |  |  |  |  |
| Segment assets: |  |  |  |  |  |  |  |  |  |  |  |
| Accounts receivable(1) | \$ | 14,692 | \$ | 5,084 | \$ | 6,183 | \$ | 34,533 | \$ | 40,995 | \$101,487 |
| Inventory |  | 125,221 |  | 4,711 |  | 4,067 |  | 27,568 |  | $(5,695)$ | 155,872 |
| Total segment assets | \$ | 139,913 | \$ | 9,795 | \$ | 10,250 | \$ | 62,101 |  | 35,300 | \$257,359 |


|  | Product Groups |  | Foreign Sales \& Service Operations |  |  |  | Corporate, Eliminations and Other |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Advanced <br> Manufacturing <br> Capital <br> Equipment | Analytical Solutions Group | Europe |  | Asia |  |  |  |  |
| December 31, 2013: |  |  |  |  |  |  |  |  |  |
| Segment assets: |  |  |  |  |  |  |  |  |  |
| Accounts receivable(1) | \$ 20,767 | \$ 5,603 | \$ | 6,538 | \$ | 44,207 | \$ | 39,629 | \$116,744 |
| Inventory | 117,822 | 4,391 |  | 4,254 |  | 25,094 |  | $(8,834)$ | 142,727 |
| Total segment assets | \$ 138,589 | \$ 9,994 | \$ | 10,792 | \$ | 69,301 |  | 30,795 | \$259,471 |

(1) A significant portion of segment receivables are processed at the Company's shared services center at the Corporate location.

A reconciliation of segment assets to consolidated total assets is as follows:

|  | June 30, 2014 | December 31, 2013 |  |
| :---: | :---: | :---: | :---: |
| Total segment assets | \$ 257,359 | \$ | 259,471 |
| Cash and cash equivalents and investments | 545,829 |  | 650,022 |
| Other current assets | 39,325 |  | 30,143 |
| Property, plant and equipment, net | 77,387 |  | 77,536 |
| Goodwill and intangible assets, net | 244,062 |  | 163,999 |
| Other assets | 33,939 |  | 31,847 |
| Consolidated total assets | \$1,197,901 | \$ | $\xrightarrow{1,213,018}$ |

## Worldwide Product Information

Because the reportable segment information above does not reflect worldwide sales of the Company's products, the Company groups its products into three groups of similar products based upon the similarity of product function. Worldwide net revenue for each group of products is as follows:

|  | Three Months Ended June 30, |  |  |  | Six Months Ended June 30, |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2014 |  | 2013 | 2014 | 2013 |
| Instruments, Control and Vacuum Products | \$ | 90,250 | \$ | 84,880 | \$191,907 | $\overline{\$ 159,604}$ |
| Power and Reactive Gas Products |  | 79,360 |  | 57,760 | 169,962 | 109,823 |
| Analytical Solutions Group Products |  | 15,087 |  | 14,288 | 29,181 | 29,146 |
|  |  | 184,697 | \$ | 156,928 | \$391,050 | \$ 298,573 |

Sales of Instruments, Control and Vacuum Products and Power and Reactive Gas Products are included in the Company's Advanced Manufacturing Capital Equipment Products segment as well as in the foreign sales and service operations because the

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## MKS INSTRUMENTS, INC.

## NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS <br> (in thousands, except share and per share data)

products are sold through the foreign sales and service operations in their respective regions. Sales of the Analytical Solutions Group products are included in the Analytical Solutions Group segment as well as in the foreign sales and service operations because the products are sold through the foreign sales and service operations in their respective regions.

## Geographic

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 June 30, |  |  | Six Months Ended June 30, |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014 |  | 2013 | 2014 | 2013 |
| Net revenues: |  |  |  |  |  |
| United States | \$ 107,931 | \$ | 86,851 | \$225,309 | \$ 161,418 |
| Korea | 17,169 |  | 16,507 | 44,760 | 30,106 |
| Japan | 14,416 |  | 12,589 | 31,343 | 26,418 |
| Europe | 18,812 |  | 18,722 | 38,367 | 37,525 |
| Asia (excluding Korea and Japan) | 26,369 |  | 22,259 | 51,271 | 43,106 |
|  | \$ 184,697 | \$ | $\underline{ }$ | $\underline{\underline{\$ 391,050}}$ | \$ 298,573 |


|  | June 30, 2014 |  | December 31, 2013 |  |
| :---: | :---: | :---: | :---: | :---: |
| Long-lived assets:(1) |  |  |  |  |
| United States | \$ | 58,450 | \$ | 60,700 |
| Europe |  | 6,682 |  | 5,484 |
| Asia |  | 12,412 |  | 13,475 |
|  | \$ | 77,544 | \$ | $\xrightarrow{79,659}$ |

(1) Long-lived assets include property, plant and equipment, net and certain other long-term assets, excluding long-term income tax receivable.

## Major Customers

The Company had two customers with net revenues greater than $10 \%$ of total net revenues in the periods shown as follows:

|  | Three Months Ended June 30, |  | Six Months Ended June 30, |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 2014 | 2013 | 2014 | 2013 |
| Customer A | 18.9\% | 18.8\% | 19.6\% | 16.8\% |
| Customer B | 13.8\% | 11.9\% | 13.4\% | 10.8\% |

## MKS INSTRUMENTS, INC.

## NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS <br> (in thousands, except share and per share data)

## 17) Restructuring

The Company recorded restructuring charges of $\$ 747$ during the six months ended June 30, 2014. The restructuring charges were primarily for severance associated with the reduction in workforce of approximately 75 people throughout the Company.

The activity related to the Company's restructuring accrual is shown below:

|  | Six Months Ended June 30, 2014 |  |
| :--- | :--- | :--- |
| Balance at December 31 | $\$$ | -747 |
| Charged to expense | $(624)$ |  |
| Payments | $\$ 123$ |  |
| Balance at June 30 |  |  |

During the first quarter of 2014, the Company re-classified certain assets from property, plant and equipment to current assets classified as held for sale, as these assets met the criteria for classification as held for sale. These assets relate to the Company closing one of its facilities in Colorado, as part of restructuring activities announced during the third quarter of 2013.

The net book value of assets held for sale consists of the following:

|  | June 30, 2014 |  |
| :---: | :---: | :---: |
| Land | \$ | 474 |
| Building and building improvements |  | 953 |
|  | \$ | 1,427 |

The estimated fair value approximates the net book value of the land and building at June 30, 2014.
18) 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.

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## 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 of 1934, as amended (the "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 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, 2013 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 products are used in diverse markets, applications and processes. 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 ("LEDs"), 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 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 other industrial, medical, pharmaceutical manufacturing, energy generation, environmental monitoring and other advanced manufacturing companies, as well as university, government and industrial research laboratories. For the six months ended June 30, 2014 and 2013, approximately $71 \%$ and $65 \%$ of our net revenues, 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.

We have four reportable segments: Advanced Manufacturing Capital Equipment, Analytical Solutions Group, Europe Region Sales \& Service and Asia Region Sales \& Service. The Advanced Manufacturing Capital Equipment segment includes the development, manufacture, sales and servicing of instruments and control products, power and reactive gas products, materials delivery products and vacuum products, all of which are utilized in semiconductor processing and other similar advanced manufacturing processes. Sales in this segment include both external sales and intercompany sales (which are recorded at agreed upon transfer prices). External sales of these products made in Europe or Asia are reported as sales in the Europe Region Sales \& Service or Asia Region Sales \& Service segments. The Analytical Solutions Group includes gas composition analysis, information technology products and custom fabrication services. The Europe and Asia region sales and service segments mainly resell and service the Advanced Manufacturing Capital Equipment and Analytical Solutions Group products sold into their respective regions.

Net revenues from semiconductor capital equipment manufacture and semiconductor device manufacture customers increased by $43 \%$ for the six months ended June 30, 2014 compared to the same period in the prior year. Net revenues to semiconductor capital equipment manufacture and semiconductor device manufacture customers had increased sequentially each quarter since March 31, 2013, from $\$ 90$ million in the first quarter of 2013 to $\$ 150$ million in the first quarter of 2014. In the second quarter of 2014, there was a pause in spending in the semiconductor market and our semiconductor revenues decreased by $\$ 23$ million sequentially from the previous 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 customers in other advanced markets, which exclude semiconductor capital equipment and semiconductor device product applications, increased by $9 \%$ for the six months ended June 30, 2014, compared to the same period for the prior year. Revenues from customers in other advanced markets are made up of many different markets including general industrial, solar, film, medical, analysis metrology and other markets. The increase is primarily attributed to an increase in the general industrial market.

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A significant portion of our net revenues is from sales to customers in international markets. For the six months ended June 30, 2014 and 2013, international net revenues accounted for approximately $42 \%$ and $46 \%$ of our net revenues, respectively. A significant portion of our international net revenues were in Korea and Japan. We expect that international net revenues will continue to represent a significant percentage of our total net revenues.

On May 30, 2014 we completed our acquisition of Granville-Phillips ("GP"), a division of Brooks Automation, Inc. ("Brooks"), for $\$ 87$ million. Granville-Phillips is a leading global provider of vacuum measurement and control instruments to the semiconductor, thin film and general industrial markets with sales of approximately $\$ 30$ million in 2013. The pro forma consolidated statements reflecting the operating results of GP, had it been acquired January 1 , 2014, would not differ materially from the operating results of the Company as reported for the three and six months ended June 30, 2014. The acquisition aligns with our current strategy to grow our semiconductor business, while diversifying into other high growth advanced markets.

## 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, 2013. 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, 2013 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 and comprehensive income data.

|  | Three Months Ended June 30, |  | Six Months Ended June 30, |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 2014 | 2013 | 2014 | 2013 |
| Net revenues: |  |  |  |  |
| Product | 85.3\% | 84.5\% | 86.6\% | 83.4\% |
| Services | 14.7 | 15.5 | 13.4 | 16.6 |
| Total net revenues | 100.0 | 100.0 | 100.0 | 100.0 |
| Cost of revenues: |  |  |  |  |
| Cost of product revenues | 47.4 | 50.5 | 48.0 | 50.2 |
| Cost of service revenues | 9.5 | 10.0 | 8.8 | 10.7 |
| Total cost of revenues | 56.9 | 60.5 | 56.8 | 60.9 |
| Gross profit | 43.1 | 39.5 | 43.2 | 39.1 |
| Research and development | 8.4 | 10.7 | 7.9 | 10.7 |
| Selling, general and administrative | 17.5 | 22.2 | 17.1 | 23.1 |
| Acquisition costs | 0.1 | - | 0.1 | 0.1 |
| Insurance reimbursement | - | (0.7) | - | (0.4) |
| Restructuring | - | 0.1 | 0.2 | 0.1 |
| Amortization of intangible assets | 0.5 | 0.5 | 0.4 | 0.4 |
| Income from operations | 16.6 | 6.7 | 17.5 | 5.1 |
| Interest income, net | 0.1 | 0.1 | 0.1 | 0.1 |
| Income from operations before income taxes | 16.7 | 6.8 | 17.6 | 5.2 |
| Provision for income taxes | 5.2 | 2.1 | 4.2 | 0.8 |
| Net income | 11.5\% | 4.7\% | 13.4\% | 4.4\% |

## Net Revenues

| (dollars in millions) | Three Months Ended June 30, |  |  | Six Months Ended June 30, |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014 | 2013 | \% Change | 2014 | 2013 | \% Change |
| Product | \$157.5 | \$132.5 | 18.8\% | \$338.7 | \$249.2 | 35.9\% |
| Service | 27.2 | 24.4 | 11.7 | 52.4 | 49.4 | 6.0 |
| Total net revenues | $\underline{\underline{\$ 184.7}}$ | $\underline{\underline{\$ 156.9}}$ | 17.7\% | $\underline{\underline{\$ 391.1}}$ | $\stackrel{\text { \$298.6 }}{\underline{\text { a }}}$ | 31.0\% |

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Product revenues increased $\$ 25.0$ million and $\$ 89.5$ million during the three and six months ended June 30 , 2014, respectively, compared to the same periods for the prior year. Product revenues related to our semiconductor capital equipment manufacturer and semiconductor device manufacturer customers increased by $\$ 19.9$ million and $\$ 79.5$ million for the three and six months ended June 30 , 2014, respectively, compared to the same periods for the prior year. The increase in the semiconductor markets we serve was mainly the result of volume increases throughout 2013 and into the three months ended March 31, 2014.

Our product revenues for other advanced markets, which exclude semiconductor capital equipment and semiconductor device product applications, increased by $\$ 5.0$ million and $\$ 10.0$ million during the three and six months ended June 30, 2014, respectively, compared to the same periods for the prior year. The increase in our non-semiconductor markets was primarily due to volume increases of $\$ 3.6$ million and $\$ 9.5$ million for the three and six months ended June 30, 2014, respectively, in our general industrial markets.

Service revenues consisted mainly of fees for services relating to the maintenance and repair of our products and software services, installation and training. Service revenues increased $\$ 2.8$ million and $\$ 3.0$ million during the three and six months ended June 30,2014 , respectively, compared to the same periods in the prior year. The increases in service revenues are primarily attributed to increases in the semiconductor markets.

Total international net revenues, including product and service, were $\$ 76.8$ million and $\$ 165.7$ million for the three and six months ended June 30, 2014, respectively, compared to $\$ 70.1$ million and $\$ 137.2$ million for the three and six months ended June 30 , 2013, respectively. The increase for the three and six months ended June 30, 2014, compared to the same periods in the prior year related mainly to an increase in net revenues in Korea and Japan, where we sell primarily into the semiconductor markets.

The following is our net revenues by reportable segment (dollars in millions):

|  | Three Months Ended June 30, |  |  | Six Month Ended June 30, |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014 | 2013 | \% Change | 2014 | 2013 | \% Change |
| Net revenues: |  |  |  |  |  |  |
| Advanced Manufacturing Capital Equipment | \$150.7 | \$124.5 | 21.1\% | \$ 319.9 | \$229.3 | 39.5\% |
| Analytical Solutions Group | 15.3 | 13.5 | 13.3 | 29.5 | 27.9 | 5.6 |
| Europe Region Sales \& Service | 12.7 | 11.8 | 7.2 | 27.0 | 22.8 | 18.3 |
| Asia Region Sales \& Service | 55.8 | 49.5 | 12.6 | 122.5 | 96.7 | 26.7 |
| Corporate, Eliminations and Other | (49.8) | (42.4) | (17.4) | (107.8) | (78.1) | (38.0) |
| Total net revenues | \$184.7 | \$156.9 | 17.7\% | \$ 391.1 | \$298.6 | 31.0\% |

Net revenues increased in our Advanced Manufacturing Capital Equipment segment by $21.1 \%$ and $39.5 \%$ for the three and six months ended June 30, 2014, respectively, compared to the same periods in the prior year. These increases were mainly driven by an increase in net revenues from our top two customers who represented, approximately $33 \%$ of our net revenues for both the three and six months ended June 30,2014 . This segment sells mainly in the semiconductor market where net revenues from semiconductor capital equipment manufacturers and semiconductor device manufacturers increased by $22 \%$ and $43 \%$ for the three and six months ended June 30 , 2014, respectively, compared to the same periods in the prior year.

Net revenues increased for our Analytical Solutions Group segment by $13.3 \%$ and $5.6 \%$ for the three and six months ended June 30, 2014, respectively, compared to the same periods in the prior year. For this segment, we sell to customers marking up many different markets including general industrial, solar, film, medical, analysis metrology and other markets.

Net revenues increased for our Europe Region Sales \& Service segment by $7.2 \%$ and $18.3 \%$ for the three and six months ended June 30, 2014, respectively, compared to the same periods in the prior year. For this segment, we sell to customers marking up many different markets including general industrial, solar, film, medical, analysis metrology and other markets.

Net revenues increased for our Asia Region Sales \& Service segment by $12.6 \%$ and $26.7 \%$ for the three and six months ended June 30, 2014, respectively, compared to the same periods in the prior year. These increases are primarily driven by increases in sales for Korea and Japan, where we sell mainly sell into the semiconductor markets.

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## Gross Profit

|  | Three Months Ended June 30, |  |  | Six Months Ended June 30, |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014 | 2013 | \% Points Change | 2014 | 2013 | \% Points Change |
| Gross profit as a percentage of net revenues: |  |  |  |  |  |  |
| Product | 44.4\% | 40.2\% | 4.2 | 44.6\% | 39.9\% | 4.7 |
| Service | 35.6 | 35.4 | 0.2 | 34.5 | 35.0 | (0.5) |
| Total gross profit percentage | 43.1\% | 39.5\% | 3.6 | 43.2\% | 39.1\% | 4.1 |

Gross profit on product revenues increased by 4.2 percentage points for the three months ended June 30, 2014, compared to the same period for the prior year. The increase is primarily due to increases of 2.7 percentage points related to higher revenue volume and 1.3 percentage points related to favorable product mix.

Gross profit on product revenues increased by 4.7 percentage points for the six months ended June 30 , 2014, compared to the same period in the prior year. The increase is primarily due to an increase of 4.8 percentage points from higher revenue volumes.

Cost of service revenues, which includes salaries and related expenses and other fixed costs, consists primarily of providing services for repair, software services and training.

Gross profit on service revenues remained relatively flat for the three months ended June 30, 2014, compared to the same period in the prior year.
Gross profit on service revenues decreased by 0.5 percentage points for the six months ended June 30 , 2014, compared to the same period in the prior year. The decrease is primarily due to a decrease of 0.5 percentage points related to higher excess and obsolete inventory charges and 0.5 percentage points due to higher warranty charges. These decreases are partially offset by an increase of 0.6 percentage points due to lower freight and duty costs.

The following is gross profit as a percentage of net revenues by reportable segment:

|  | Three Months Ended June 30, |  |  | Six Months Ended June 30, |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014 | 2013 | \% Points Change | 2014 | 2013 | \% Points Change |
| Gross profit: |  |  |  |  |  |  |
| Advanced Manufacturing Capital Equipment | 40.8\% | 35.1\% | 5.7 | 40.4\% | 34.2\% | 6.2 |
| Analytical Solutions Group | 51.3 | 52.1 | (0.8) | 48.9 | 51.9 | (3.0) |
| Europe Region Sales \& Service | 28.6 | 28.7 | (0.1) | 29.1 | 28.8 | 0.3 |
| Asia Region Sales \& Service | 17.3 | 22.1 | (4.8) | 18.5 | 20.5 | (2.0) |
| Corporate, Eliminations and Other | 6.1 | 7.2 | (1.1) | 4.7 | 3.4 | 1.3 |
| Total gross profit | 43.1\% | 39.5\% | 3.6 | 43.2\% | 39.1\% | 4.1 |

Gross profit for the Advanced Manufacturing Capital Equipment group increased 5.7 and 6.2 percentage points for the three and six month periods ended June 30, 2014, respectively, compared to the same periods in the prior year. These increases are primarily attributed to higher revenue volumes and favorable product mix.

Gross profit for the Analytical Solutions Group decreased 0.8 and 3.0 percentage points for the three and six month periods ended June 30, 2014, respectively, compared to the same periods in the prior year. These decreases are primarily related to unfavorable product mix and higher warranty costs, partially offset by higher revenue volumes.

Gross profit for the Europe Region Sales \& Service operations remained relatively flat for the three and six month periods ended June 30, 2014, compared to the same periods in the prior year.

Gross profit for the Asia Region Sales \& Service operations decreased 4.8 and 2.0 percentage points for the three and six month periods ended June 30 , 2014, respectively, compared to the same periods in the prior year. The decreases are primarily attributed to unfavorable product mix, partially offset by lower freight and duty costs.

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Research and Development

|  | Three Months Ended June 30, |  |  | Six Months Ended June 30, |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (dollars in millions) | 2014 | 2013 | \% Change | 2014 | 2013 | \% Change |
| Research and development expenses | \$15.4 | \$16.8 | (8.3)\% | \$31.0 | \$32.1 | (3.2)\% |

Research and development expenses decreased $\$ 1.4$ million for the three months ended June 30, 2014, compared to the same period in the prior year. The decrease is primarily attributed to decreases of $\$ 0.5$ million in project materials, $\$ 0.4$ million in consulting and professional fees and $\$ 0.4$ million in compensation related costs.

Research and development expense decreased $\$ 1.1$ million for the six months ended June 30, 2014, compared to the same period in the prior year. The decrease is primarily attributed to a decrease of $\$ 1.0$ million in project materials.

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.

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

|  | Three Months Ended June 30, |  |  | Six Months Ended June 30, |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (dollars in millions) | 2014 | 2013 | \% Change | 14 | 2013 | \% Change |
| Selling, general and administrative expenses | \$32.2 | \$34.8 | (7.5)\% | \$66.8 | \$69.0 | (3.1)\% |

Selling, general and administrative expenses decreased by $\$ 2.6$ million in the three months ended June 30, 2014, compared to the same period in the prior year. The decrease is primarily attributed to a $\$ 1.4$ million decrease in compensation related costs and a $\$ 1.1$ million favorable change in foreign exchange rates.

Selling, general and administrative expenses decreased by $\$ 2.2$ million for the six months ended June 30 , 2014, compared to the same period in the prior year. The decrease is primarily attributed to a $\$ 1.7$ million favorable change in foreign exchange rates, a decrease of $\$ 0.7$ million in bad debt expense and a decrease of $\$ 0.5$ million in compensation related costs. These decreases are partially offset by an increase of $\$ 0.5$ million in commission expense.

## Insurance Reimbursement

| (dollars in millions) | $\frac{\text { Three Months Ended June 30, }}{}$ | $\frac{\text { Six Months Ended June 30, }}{2}$ |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Insurance reimbursement | $\frac{2014}{2-}$ | $\frac{2013}{\$ 1.1}$ | $\frac{\% \text { Change }}{(100.0) \%}$ | $\frac{2014}{\$-}$ | $\frac{2013}{\$ 1.1}$ |$\frac{\frac{\% \text { Change }}{(100.0) \%}}{}$

In the third quarter of 2012, we incurred $\$ 5.3$ million in charges to settle litigation with former shareholders of one of our former subsidiaries. This litigation was long standing and the decision to reach a settlement was made to eliminate future legal expenses related to the suit. In the second quarter of 2013, we recovered $\$ 1.1$ million from our insurance company relating to the 2012 litigation settlement and recorded a gain in our consolidated statement of operations.

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Acquisition Costs

|  | Three Months Ended June 30, |  |  | Six Months Ended June 30, |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (dollars in millions) | $\underline{2014}$ | 2013 | \% Change | 2014 | 2013 | \% Change |
| Acquisition costs | \$0.3 | \$- | 100.0\% | \$0.5 | \$0.2 | 191.4\% |

We incurred $\$ 0.3$ million and $\$ 0.5$ million of acquisition costs in the three and six month periods ended June 30, 2014, respectively, which was comprised primarily of legal fees related to the Granville-Philips acquisition that was completed during the second quarter of 2014 . We incurred $\$ 0.2$ million of acquisition costs, consisting primarily of legal fees, in the six months ended June 30, 2013 related to our acquisition of Alter S.r.l. in March 2013.

## Restructuring

| (dollars in millions) | Three Months Ended June 30, |  |  | Six Months Ended June 30, |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014 | 2013 | \% Change | 2014 | 2013 | \% Change |
| Restructuring | \$- | \$0.2 | (100.0)\% | \$0.7 | \$0.2 | 214.3\% |

The six months ended June 30, 2014, includes restructuring charges primarily related to severance costs associated with a reduction in workforce or approximately 75 people throughout the Company. The restructuring charges for the three and six months ended June 30, 2013 are primarily for severance costs related to the consolidation of two sites.

## Amortization of Intangible Assets

| (dollars in millions) | Three Months Ended June 30, |  |  | Six Months Ended June 30, |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014 | 2013 | \% Change | 2014 | 2013 | \% Change |
| Amortization of intangible assets | \$1.0 | \$0.7 | 40.8\% | \$1.5 | \$1.2 | 23.6\% |

Amortization expense increased by $\$ 0.3$ million for both the three and six months ended June 30 , 2014, respectively, compared to the same periods in the prior year. The increases are primarily attributed to increases in amortization expense from the intangible assets acquired through the Granville-Phillips acquisition which closed during the second quarter of 2014.

## Interest Income, Net

| (dollars in millions) | Three Months Ended June 30, |  |  | Six Months Ended June 30, |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014 | 2013 | \% Change | 2014 | 2013 | \% Change |
| Interest income, net | \$0.2 | \$0.2 | 9.1\% | \$0.5 | \$0.5 | (7.2)\% |

Interest income, net remained relatively flat for the three and six months ended June 30, 2014, compared to the same periods in the prior year.

## Provision for Income Taxes

|  | Three Months Ended June 30, |  |  | Six Months Ended June 30, |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (dollars in millions) | 2014 | 2013 | \% Change | $\underline{2014}$ | 2013 | \% Change |
| Provision for income taxes | \$9.7 | \$3.3 | 191.3\% | \$16.4 | \$2.5 | 551.1\% |

Our effective tax rate for the three and six months ended June 30,2014 was $31.3 \%$ and $23.9 \%$, respectively. The effective tax rate for the three months ended June 30 , 2014 was lower than the U.S. statutory rate due to the impact of lower tax rates on foreign income and the deduction for domestic production activities. The effective tax rate was lower in the six months ended June 30, 2014 primarily due to the discrete release of income tax reserves related to the effective settlement of a foreign tax examination in the quarter ended March 31, 2014. 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 and the deduction for domestic production activities also had a significant impact in reducing the effective tax rate in the six month period. The Company's effective tax rate for the three and six months ended June 30, 2013 was $31.2 \%$ and $16.2 \%$, respectively. The effective tax rate for the six months ended June 30,2013 , and related tax expense was lower than the U.S. statutory rate due to certain tax incentives realized by the Company, and recognized as discrete events in the quarter ended March 31, 2013. These incentives were reinstated under The American Taxpayer Relief Act of 2012 that was signed into law on January 2, 2013.

We and our subsidiaries are subject to examination by federal, state and foreign tax authorities. The Internal Revenue Service commenced an examination of our U.S. federal tax filings for open tax years 2007 through 2009 during the quarter ended June 30, 2012.

Our future effective tax rate depends on various factors, including the impact of tax legislation, the geographic composition of our pre-tax income, and changes in tax reserves for unrecognized tax benefits. 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.

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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 law and regulations. Additionally, the recognition and measurement of certain tax benefits include estimates and judgment by management. Accordingly, we could record additional provisions or benefits for U.S. federal, state, and foreign taxes matters in future periods as new information becomes available.

## Liquidity and Capital Resources

Cash and cash equivalents and short-term investments totaled \$464.9 million at June 30, 2014, compared to \$589.6 million at December 31, 2013.
Net cash provided by operating activities was $\$ 27.8$ million for the six months ended June 30, 2014 and resulted mainly from net income of $\$ 52.5$ million, which included non-cash charges of $\$ 22.2$ million and changes in working capital of $\$ 46.6$ million. The increase in working capital was primarily due to a decrease in accrued compensation of $\$ 19.7$ million, mainly related to a retirement payment to our former chief executive officer, net payments of income taxes of $\$ 17.2$ million, an increase in inventories of $\$ 11.8$ million, a decrease in accounts payable of $\$ 13.5$ million and an increase in other current assets of $\$ 3.7$ million, partially offset by a decrease in accounts receivable of $\$ 15.8$ million and an increase in other current liabilities of $\$ 4.5$ million.

Net cash provided by operating activities was $\$ 5.6$ million for the six months ended June 30, 2013 and resulted mainly from net income of $\$ 13.1$ million, which included non-cash charges of $\$ 28.5$ million and changes in working capital of $\$ 35.1$ million. The increase in working capital was primarily due to an increase in trade accounts receivable of $\$ 16.3$ million and an increase in inventory of $\$ 10.9$ million, both of which are a result of increased sales, an increase in other current assets of $\$ 8.6$ million, an increase in income taxes of $\$ 3.6$ million, a decrease in accrued compensation and other liabilities of $\$ 3.0$ million, partially offset by an increase in accounts payable of $\$ 7.7$ million.

Net cash used in investing activities of $\$ 15.9$ million for the six months ended June 30, 2014 resulted primarily from $\$ 87.0$ million of cash used for the acquisition of Granville-Phillips and $\$ 7.3$ million in purchases of production related equipment, partially offset by $\$ 78.2$ million in net sales and maturities of short-term and long-term investments. Net cash used in investing activities of $\$ 31.3$ million for the six months ended June 30, 2013, resulted primarily from $\$ 22.8$ million in net purchases of short-term and long-term investments, $\$ 6.4$ million in purchases of production related equipment and $\$ 2.1$ million from the acquisition of Alter S.r.l.

Net cash used in financing activities was $\$ 37.8$ million for the six months ended June 30, 2014 and consisted primarily of $\$ 20.8$ million related to the repurchase of common stock and $\$ 17.3$ million of dividend payments made to common stockholders. Net cash used in financing activities was $\$ 22.2$ million for the six months ended June 30, 2013 and consisted primarily of $\$ 17.0$ million of dividend payments made to common stockholders, $\$ 2.9$ million related to the repurchase of common stock and $\$ 2.4$ million of net payments related to employee stock awards.

Our Japanese subsidiary has lines of credit and short-term borrowing arrangements with two financial institutions which generally expire and are renewed at three month intervals. The lines of credit provide for aggregate borrowings as of June 30,2014 of up to an equivalent of $\$ 22.6$ million U.S. dollars. One of the borrowing arrangements has an interest rate based on the Tokyo Interbank Offer Rate at the time of borrowing and the other has an interest rate based on the Japanese Short-term Prime Lending Rate. There were no borrowings outstanding under these arrangements at June 30, 2014 and December 31, 2013.

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 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 depends 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 six months ended June 30, 2014, we repurchased approximately 728,000 shares of our common stock for $\$ 20.8$ million at an average price of $\$ 28.59$ per share. During the six months ended June 30, 2013, we repurchased approximately 107,000 shares of our common stock for $\$ 2.9$ million at an average price of $\$ 26.87$ per share.

During the six months ended June 30, 2014, our Board of Directors declared two quarterly dividends of $\$ 0.16$ and $\$ 0.165$ per share that totaled $\$ 17.3$ million.

On July 28, 2014, the Board of Directors declared a quarterly cash dividend of $\$ 0.165$ per share to be paid on September 12, 2014 to stockholders of record as of September 2, 2014. Future dividend declarations, if any, as well as the record and payment dates for such dividends, are subject to the final determination of our Board of Directors.

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Our total cash and cash equivalents and short-term marketable investments at June 30, 2014 consisted of $\$ 196.1$ million held in the U.S. and $\$ 268.8$ million held by our foreign subsidiaries, substantially all of which would be subject to tax in the U.S. if returned to the U.S. We believe our existing U.S. cash and short-term investment balances are adequate to meet domestic operating needs, including estimated working capital, planned capital expenditure requirements and any future cash dividends, if declared.

As previously noted, we completed the acquisition of Granville-Philips in the second quarter of 2014, for approximately $\$ 87$ million.

## 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.

## Recently Issued Accounting Pronouncements

In May 2014 the Financial Accounting Standards Board issued Accounting Standards Update ("ASU") No. 2014-09, "Revenue from Contracts with Customers (Topic 606)," which supersedes all existing revenue recognition requirements, including most industry-specific guidance. The new standard requires a company to recognize revenue when it transfers goods and services to customers in an amount that reflects the consideration that the company expects to be entitled to in exchange for those goods or services. The ASU also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and assets recognized from costs incurred to obtain or fulfill a contract. This pronouncement is effective for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period. The two permitted transition methods under the new standard are the full retrospective method, in which case the standard would be applied to each prior reporting period presented, or the modified retrospective method, in which case the cumulative effect of applying the standard would be recognized at the date of initial application. We have not yet selected a transition method. We are currently evaluating the requirements of ASU No. 2014-09 and have not yet determined its impact on our consolidated financial statements.

## 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, 2013 filed with the Securities and Exchange Commission on February 26, 2014. As of June 30, 2014, there were no material changes in our exposure to market risk from December 31, 2013.

## 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 June 30, 2014. 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, or persons performing similar functions 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 June 30, 2014, 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.

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## 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 June 30, 2014 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, 2013 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 June 30, 2014.

## ISSUER PURCHASES OF EQUITY SECURITIES

|  |  | Total Number of <br> Shares Purchased as <br> Part of Publicly | Approximate Dollar <br> Value of Shares that <br> May Yet Be |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Announced Plans or |  |  |  |
| Programs(1)(2) |  |  |  |$\quad$| Purchased Under the |
| :---: |
| Plans or Programs(1) |

(1) On July 25, 2011, our Board of Directors approved a share repurchase program (the "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.
(2) We have repurchased approximately $1,355,000$ shares of our common stock pursuant to the Program since its adoption.

## ITEM 6. EXHIBITS.

## Exhibit

$+3.1(1) \quad$ Restated Articles of Organization of the Registrant
$+3.2(2)$ Articles of Amendment to Articles of Organization, as filed with the Secretary of State of Massachusetts on May 18, 2001
+3.3 (3) Articles of Amendment to Articles of Organization, as filed with the Secretary of State of Massachusetts on May 16, 2002
$+3.4(4) \quad$ Amended and Restated By-Laws of the Registrant
10.1 Amendment, dated April 16, 2014, to Global Supply Agreement dated April 21, 2005 by and between the Registrant and Applied Materials, Inc.
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.
$+\quad$ Previously filed
(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 Current Report on Form 8-K filed with the Securities and Exchange Commission on May 6, 2014.

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## SIGNATURE

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

MKS INSTRUMENTS, INC.

## August 6, 2014

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

# Ms. Holly Bonner 

Account Director
134 Rio Robles Drive
San Jose, CA 95134
Reference: Global Supply Agreement, dated April 21, 2005

Dear Holly:
To allow for adequate time to complete negotiations of our existing GSA document, we are amending the Global Supply Agreement between Applied Materials and MKS Instruments to extend the existing term. We will in good faith work on an evergreen agreement within anticipated completion in the next three months. Unless the GSA is terminated sooner, the term of the GSA will now expire on July 30th, 2014.

All other Terms and Conditions of the Global Supply Agreement remain unchanged. Additionally, any Addendums that expire upon the expiry or termination of the GSA shall also be extended for this additional period, unless terminated earlier as provided in the Addendum or this letter.

Sincerely,
/s/ John A. Casey
John A. Casey
Sr. Commodity Business Manager

| /s/ John A. Casey | $4 / 16 / 14$ |
| :--- | :--- |
| Applied Materials | Date |
| $/ \mathrm{s} /$ Gerald G. Colella | $4 / 27 / 14$ |
| MKS Instruments | Date |

MKS Instruments
Date
Gerald G. Colella
CEO \& President

## 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, Gerald G. Colella, 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 (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

## 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 (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.
/s/ Seth H. Bagshaw
Seth H. Bagshaw
Vice President, Chief Financial Officer and Treasurer
(Principal Financial Officer)

## 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 June 30, 2014, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Gerald G. Colella, 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: August 6, 2014

Dated: August 6, 2014
/s/ Gerald G. Colella
Gerald G. Colella
Chief Executive Officer and President
/s/ Seth H. Bagshaw
Seth H. Bagshaw
Vice President, Chief Financial Officer and Treasurer

