NANOMETRICS INC
Form 10-Q
April 29, 2016

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark One)

x QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended March 26, 2016

OR

o TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to

Commission file number: 000-13470

NANOMETRICS INCORPORATED

(Exact name of registrant as specified in its charter)

Delaware	94-2276314
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
1550 Buckeye Drive	
Milpitas, California	95035
(Address of principal executive offices)	(Zip Code)

Registrant’s telephone number, including area code: (408) 545-6000

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

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

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

Large accelerated filer	o	Accelerated filer	x
Non-accelerated filer	o	Smaller reporting company	o

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

As of April 22, 2016, there were 24,399,157 shares of common stock, $0.001 par value, issued and outstanding.

NANOMETRICS INCORPORATED

INDEX TO QUARTERLY REPORT ON FORM 10-Q

FOR THE QUARTER ENDED MARCH 26, 2016

PART I — FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS
NANOMETRICS INCORPORATED

CONDENSED CONSOLIDATED BALANCE SHEETS

(In thousands except share and per share amounts)

(Unaudited)

	March 26, 2016	December 26, 2015
ASSETS		
Current assets:		
Cash and cash equivalents	$38,673	$ 38,154
Marketable securities	44,672	44,931
Accounts receivable, net of allowances of $145 and $150, respectively	44,482	37,832
Inventories	49,893	47,749
Inventories-delivered systems	4,138	2,856
Prepaid expenses and other	6,060	6,592
Total current assets	187,918	178,114
Property, plant and equipment, net	43,068	44,493
Goodwill	9,592	9,415
Intangible assets, net	1,425	1,867
Deferred income tax assets	1,191	1,118
Other assets	525	533
Total assets	$243,719	$ 235,540
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$13,212	$ 11,675
Accrued payroll and related expenses	8,592	10,097
Deferred revenue	16,010	12,790
Other current liabilities	8,978	8,878
Income taxes payable	704	1,771
Total current liabilities	47,496	45,211
Deferred revenue	250	827
Income taxes payable	805	775
Deferred tax liability	563	521
Other long-term liabilities	859	878
Total liabilities	49,973	48,212
Commitments and contingencies (Note 11)		
Stockholders' equity:		

Preferred stock, $0.001 par value; 3,000,000 shares authorized; no shares issued or outstanding	—	—
Common stock, $0.001 par value, 47,000,000 shares authorized: 24,371,657 and 24,224,286, respectively, issued and outstanding	24	24
Additional paid-in capital	260,679	258,715
Accumulated deficit	(62,742)	(66,209)
Accumulated other comprehensive income	(4,215)	(5,202)
Total stockholders' equity	193,746	187,328
Total liabilities and stockholders' equity	$243,719	$ 235,540

See Notes to Condensed Consolidated Financial Statements

NANOMETRICS INCORPORATED

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(In thousands except per share amounts)

(Unaudited)

	Three Months Ended	
	March 26, 2016	March 28, 2015
Net revenues:		
Products	$39,214	$38,339
Service	8,275	12,037
Total net revenues	47,489	50,376
Costs of net revenues:		
Cost of products	18,079	19,992
Cost of service	4,484	6,373
Amortization of intangible assets	435	632
Total costs of net revenues	22,998	26,997
Gross profit	24,491	23,379
Operating expenses:		
Research and development	8,068	8,159
Selling	7,249	7,116
General and administrative	5,420	5,767
Amortization of intangible assets	24	38
Restructuring charge	—	58
Total operating expenses	20,761	21,138
Income from operations	3,730	2,241
Other (income) expense:		
Interest income	9	10
Interest expense	(117)	(82)
Other income, net	225	704
Total other income, net	117	632
Income before income taxes	3,847	2,873
Provision for income taxes	380	317
Net income	$3,467	$2,556
Net income per share:		
Basic	$0.14	$0.11
Diluted	$0.14	$0.11
Weighted average shares used in per share calculation:		
Basic	24,308	23,866
Diluted	24,597	24,257

See Notes to Condensed Consolidated Financial Statements

NANOMETRICS INCORPORATED

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In thousands)

(Unaudited)

	Three Months Ended	
	March 26, 2016	March 28, 2015
Net income	$3,467	$2,556
Other comprehensive income (loss):		
Change in foreign currency translation adjustment	952	(1,727)
Net change on unrealized gains on available-for-sale investments	35	29
Other comprehensive income (loss):	987	(1,698)
Comprehensive income	$4,454	$858

See Notes to Condensed Consolidated Financial Statements

NANOMETRICS INCORPORATED

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

(Unaudited)

	Three Months Ended	
	March 26, 2016	March 28, 2015
Cash flows from operating activities:		
Net income	$3,467	$2,556
Reconciliation of net income to net cash provided by (used in) operating activities:		
Depreciation and amortization	2,176	2,324
Stock-based compensation	1,689	1,571
Disposal of fixed assets	99	485
Inventory write-down	651	403
Deferred income taxes	(30)	55
Changes in fair value of contingent payments to Zygo Corporation	55	35
Changes in assets and liabilities:		
Accounts receivable	(5,197)	(13,340)
Inventories	(1,871)	(2,442)
Inventories-delivered systems	(1,283)	1,164
Prepaid expenses and other	605	(94)
Accounts payable, accrued and other liabilities	(1,468)	3,947
Deferred revenue	2,643	(2,468)
Income taxes payable	(1,037)	(70)
Net cash provided by (used in) operating activities	499	(5,874)
Cash flows from investing activities:		
Sales of marketable securities	—	1,082
Maturities of marketable securities	13,153	9,592
Purchases of marketable securities	(12,953)	(10,613)
Purchases of property, plant and equipment	(610)	(502)
Net cash used in investing activities	(410)	(441)
Cash flows from financing activities:		
Payments to Zygo Corporation related to acquisition	(84)	(224)
Proceeds from sale of shares under employee stock option plans and purchase plan	934	2,357
Taxes paid on net issuance of stock awards	(658)	(764)
Repurchases of common stock	-	(1,721)
Net cash provided by (used in) financing activities	192	(352)
Effect of exchange rate changes on cash and cash equivalents	238	(74)

Net increase (decrease) in cash and cash equivalents	519	(6,741)
Cash and cash equivalents, beginning of period	38,154	34,676
Cash and cash equivalents, end of period	$38,673	$27,935
Supplemental disclosure of non-cash investing activities:		
Transfer of inventory to property, plant and equipment, net	$—	$435
Transfer of property, plant and equipment to inventory, net	$491	$—

See Notes to Consolidated Financial Statements

NANOMETRICS INCORPORATED

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

(Unaudited)

Note 1. Nature of Business and Basis of Presentation

Description of Business – Nanometrics Incorporated ("Nanometrics" or the "Company") and its wholly-owned subsidiaries design, manufacture, market, sell and support optical critical dimension ("OCD"), thin film and overlay dimension metrology and inspection systems used primarily in the manufacturing of semiconductors, solar photovoltaics ("solar PV") and high-brightness LEDs ("HB-LED"), as well as by customers in the silicon wafer and data storage industries. Nanometrics' metrology systems precisely measure a wide range of film types deposited on substrates during manufacturing to control manufacturing processes and increase production yields in the fabrication of integrated circuits. The Company's OCD technology is a patented critical dimension measurement technology that is used to precisely determine the dimensions on the semiconductor wafer that directly control the resulting performance of the integrated circuit devices. The thin film metrology systems use a broad spectrum of wavelengths, high-sensitivity optics, proprietary software, and patented technology to measure the thickness and uniformity of films deposited on silicon and other substrates as well as their chemical composition. The overlay metrology systems are used to measure the overlay accuracy of successive layers of semiconductor patterns on wafers in the photolithography process. Nanometrics' inspection systems are used to find defects on patterned and unpatterned wafers at nearly every stage of the semiconductor production flow. The corporate headquarters of Nanometrics is located in Milpitas, California.

Basis of Presentation – The accompanying condensed consolidated financial statements ("financial statements") have been prepared on a consistent basis with the audited consolidated financial statements as of December 26, 2015, and include all normal recurring adjustments necessary to fairly state the information set forth therein. All significant intercompany accounts and transactions have been eliminated in consolidation.

The financial statements have been prepared in accordance with the regulations of the United States Securities and Exchange Commission ("SEC") for interim periods in accordance with S-X Article 10, and, therefore, omit certain information and footnote disclosure necessary to present the statements in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"). The operating results for interim periods are not necessarily indicative of the operating results that may be expected for the entire year. These financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto for the fiscal year ended December 26, 2015, which were included in the Company's Annual Report on Form 10-K filed with the SEC on February 24, 2016.

Fiscal Period – The Company uses a 52/53 week fiscal year ending on the last Saturday of the calendar year. All references to the quarter refer to Nanometrics' fiscal quarter. The fiscal quarters reported herein are comprised of 13 week periods.

Upgrade Revenue and Related Cost - During the first quarter of 2016, revenues associated with upgrade sales are now included under Products Revenues, and the related costs in Cost of Products Revenue. This change was due to the types of upgrades currently being sold, which are primarily system software and hardware performance upgrades to extend the features and functionality of a product. Previously upgrades consisted of a group of parts and/or software that change the existing configuration of a product. For the three months ended March 28, 2015, $4.6 million related to upgrade sales, and $1.8 million of costs, are included in Service Revenues and Costs of Service Revenues,

respectively, in the accompanying Condensed Consolidated Statement of Operations.

Use of Estimates – The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reported period. Actual results could differ materially from those estimates. Estimates are used for, but not limited to, revenue recognition, the provision for doubtful accounts, the provision for excess, obsolete, or slow moving inventories, valuation of intangible and long-lived assets, warranty accruals, income taxes, valuation of stock-based compensation, and contingencies.

Revenue Recognition – The Company derives revenue from the sale of process control metrology and inspection systems and related upgrades (“product revenue”) as well as spare part sales, billable service and service contracts (together “service revenue”). Upgrades are system software and hardware performance upgrades that extend the features and functionality of a product. As discussed above, commencing in the first quarter of 2016, they are included in product revenue, which consists of complete, advanced process control metrology and inspection systems (the “system(s)”). Nanometrics’ systems consist of hardware and software components that function together to deliver the essential functionality of the system. Arrangements for sales of systems often include defined customer-specified acceptance criteria.

NANOMETRICS INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

(Unaudited)

In summary, the Company recognizes revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the seller's price is fixed or determinable, and collectability is reasonably assured.

For product sales to existing customers, revenue recognition occurs at the time title and risk of loss transfer to the customer, which usually occurs upon shipment from the Company's manufacturing location, if it can be reliably demonstrated that the product has successfully met the defined customer specified acceptance criteria and all other recognition criteria have been met. For initial sales where the product has not previously met the defined customer specified acceptance criteria, product revenues are recognized upon the earlier of receipt of written customer acceptance or expiration of the contractual acceptance period. In Japan, where contractual terms with the customer specify risk of loss and title transfers upon customer acceptance, revenue is recognized upon receipt of written customer acceptance, provided that all other recognition criteria have been met.

The Company warrants its products against defects in manufacturing. Upon recognition of product revenue, a liability is recorded for anticipated warranty costs. On occasion, customers request a warranty period longer than the Company's standard warranty. In those instances where extended warranty services are separately quoted to the customer, the associated revenue is deferred and recognized as service revenue ratably over the term of the contract. The portion of service contracts and extended warranty services agreements that are uncompleted at the end of any reporting period are included in deferred revenue.

The Company sells software that is considered to be an upgrade to a customer's existing systems. These standalone software upgrades are not essential to the tangible product's functionality and are accounted for under software revenue recognition rules which require vendor specific objective evidence (“VSOE”) of fair value to allocate revenue in a multiple element arrangement. Revenue from upgrades is recognized when the upgrades are delivered to the customer, provided that all other recognition criteria have been met.

Revenue related to spare parts is recognized upon shipment. Revenue related to billable services is recognized as the services are performed. Service contracts may be purchased by the customer during or after the warranty period and revenue is recognized ratably over the service contract period.

Frequently, the Company delivers products and various services in a single transaction. The Company's deliverables consist of tools, installation, upgrades, billable services, spare parts, and service contracts. The Company's typical multi-element arrangements include a sale of one or multiple tools that include installation and standard warranty. Other arrangements consist of a sale of tools bundled with service elements or delivery of different types of services. The Company's tools, upgrades, and spare parts are generally delivered to customers within a period of up to six months from order date. Installation is usually performed soon after delivery of the tool. The portion of revenue associated with installation is deferred based on relative selling price and that revenue is recognized upon completion of the installation. Billable services are billed on a time and materials basis and performed as requested by customers. Under service contract arrangements, services are provided as needed over the fixed arrangement term, which terms can be up to twelve months. The Company does not grant its customers a general right of return or any refund terms and imposes a penalty on orders cancelled prior to the scheduled shipment date.

The Company regularly evaluates its revenue arrangements to identify deliverables and to determine whether these deliverables are separable into multiple units of accounting. The Company allocates the arrangement consideration among the deliverables based on relative selling prices. The Company has established VSOE for some of its products and services when a substantial majority of selling prices falls within a narrow range when sold separately. For deliverables with no established VSOE, the Company uses best estimate of selling price to determine standalone selling price for such deliverable. The Company does not use third party evidence to determine standalone selling price since this information is not widely available in the market as the Company's products contain a significant element of proprietary technology and the solutions offered differ substantially from competitors. The Company has established a process for developing estimated selling prices, which incorporates historical selling prices, the effect of market conditions, gross margin objectives, pricing practices, as well as entity-specific factors. The Company monitors and evaluates estimated selling price on a regular basis to ensure that changes in circumstances are accounted for in a timely manner.

When certain elements in multiple-element arrangements are not delivered or accepted at the end of a reporting period, the relative selling prices of undelivered elements are deferred until these elements are delivered and/or accepted. If deliverables cannot be accounted for as separate units of accounting, the entire arrangement is accounted for as a single unit of accounting and revenue is deferred until all elements are delivered and all revenue recognition requirements are met.

NANOMETRICS INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

(Unaudited)

Note 2. Recent Accounting Pronouncements

In March 2016, the Financial Accounting Standards Board ("FASB") issued an accounting standards update that simplifies several aspects of the accounting for share-based payment award transactions, including income tax consequences, classification of awards as equity or liability, and classification on the statement of cash flows. The new standard is effective for public companies for annual reporting periods beginning after December 16, 2016, and interim periods within those annual periods. Early adoption is permitted. The Company is currently evaluating the timing and effects of the adoption of this standard on its consolidated financial statements.

In March 2016, the FASB issued an accounting standards update that clarifies the implementation guidance on principal versus agent considerations to improve operability and understandability of the revenue recognition guidance. The amendments in this update affect the recently issued guidance in accounting standards update 2014-09, Revenue from Contracts with Customers, which is effective for public companies for annual reporting periods beginning after December 15, 2017 and interim periods within those fiscal years. Thus, the effective date and transition requirements for the amendments in this Update are the same. This updated standard will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective and permits the use of either the retrospective or cumulative effect transition method. The Company has not yet selected a transition method and is currently evaluating the timing and effects of the adoption of this standard and related updates on its consolidated financial statements and related disclosures.

In February 2016, the FASB issued an accounting standards update which requires lessees to record a right-of-use asset and a corresponding lease liability on the balance sheet (with the exception of short-term leases). For lessees, leases will continue to be classified as either operating or financing in the income statement. The new standard is effective for public companies for annual reporting periods beginning after December 15, 2018, including interim periods within those fiscal years. This standard is required to be applied with a modified retrospective transition approach. Early adoption is permitted. The Company is currently evaluating the effect of this standard on its Consolidated Financial Statements and related disclosures.

Note 3. Fair Value Measurements and Disclosures

The Company determines the fair values of its financial instruments based on the fair value hierarchy established in FASB Accounting Standards Codification ("ASC") 820, Fair Value Measurement, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The classification of a financial asset or liability within the hierarchy is based upon the lowest level input that is significant to the fair value measurement. The fair value hierarchy prioritizes the inputs into the following three levels that may be used to measure fair value:

Level 1 — Quoted prices in active markets for identical assets or liabilities.

Level 2 — Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly

through market corroboration, for substantially the full term of the financial instrument.

Level 3 — Unobservable inputs that are supported by little or no market activity and are significant to the fair value of the assets or liabilities. Such unobservable inputs include an estimated discount rate used in the Company's discounted present value analysis of future cash flows, which reflects the Company's estimate of debt with similar terms in the current credit markets. As there is currently minimal activity in such markets, the actual rate could be materially different.

Fair value is defined as the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The standard assumes that the transaction to sell the asset or transfer the liability occurs in the principal or most advantageous market for the asset or liability and establishes that the fair value of an asset or liability shall be determined based on the assumptions that market participants would use in pricing the asset or liability.

NANOMETRICS INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

(Unaudited)

The following tables present the Company's assets and liabilities measured at estimated fair value on a recurring basis, excluding accrued interest components, categorized in accordance with the fair value hierarchy (in thousands), as of the following dates:

	March 26, 2016 Fair Value Measurements Using Input Types				December 26, 2015 Fair Value Measurements Using Input Types			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets:								
Cash equivalents:								
Money market funds	$1,075	$—	$—	$1,075	$590	$—	$—	$590
Commercial paper and corporate debt securities	—	4,452	—	4,452	—	4,568	—	4,568
Total cash equivalents	$1,075	$4,452	$—	$5,527	$590	$4,568	$—	$5,158
Marketable securities:								
U.S. Treasury, U.S. Government and U.S. Government agency debt securities	6,973	23,227	—	30,200	4,401	20,164	—	24,565
Commercial paper, municipal securities and corporate debt securities	—	14,473	—	14,473	—	20,366	—	20,366
Total marketable securities	$6,973	$37,700	$—	$44,673	$4,401	$40,530	$—	$44,931
Total[(1)]	$8,048	$42,152	$—	$50,200	$4,991	$45,098	$—	$50,089
Liabilities:								
Contingent consideration payable	$—	$—	$1,461	$1,461	$—	$—	$1,490	$1,490

[(1)] Excludes $33.1 million and $33.0 million held in operating accounts as of March 26, 2016 and December 26, 2015, respectively.

The fair values of the marketable securities that are classified as Level 1 in the table above were derived from quoted market prices for identical assets or liabilities in active markets that the Company has the ability to access. The fair value of marketable securities that are classified as Level 2 in the table above were derived from non-binding market consensus prices that were corroborated by observable market data, quoted market prices for similar instruments, or pricing models, such as discounted cash flow techniques with all significant inputs derived from or corroborated by observable market data. There were no transfers of instruments between Level 1, Level 2 and Level 3 during the financial periods presented.

Changes in Level 3 liabilities	(in thousands)
Fair value at December 26, 2015	$ 1,490
Payments made to Zygo Corporation	(84)
Change in fair value included in earnings	55
Fair value at March 26, 2016	$ 1,461

As of March 26, 2016, the Company had liabilities of $1.5 million resulting from the acquisition of certain assets from Zygo Corporation, a wholly-owned subsidiary of AMETEK, Inc. (“Zygo”), which are measured at fair value on a recurring basis, and changes in fair value recorded in other income (expense), net. Of the $1.4 million of Zygo liabilities at March 26, 2016, $1.0 million was a current liability and $0.5 million was a long-term liability. As of December 26, 2015, the liabilities totaled $1.5 million of which $0.9 million was a current liability and $0.6 million was a long-term liability. The fair values of these liabilities were determined using Level 3 inputs applying a discounted cash flow model incorporating assumptions that market participants would use in their estimates of fair value. Some of these assumptions included estimates for discount rate, and timing and the amount of cash flows.

Derivatives

The Company uses foreign currency forward contracts to mitigate variability in gains and losses generated from the re-measurement of certain monetary assets and liabilities denominated in foreign currencies. These derivatives are carried at fair value

NANOMETRICS INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

(Unaudited)

with changes recorded in other income (expense), net in the consolidated statements of operations. Changes in the fair value of these derivatives are largely offset by re-measurement of the underlying assets and liabilities. The derivatives have maturities of approximately 30 days.

The loss on settlement of forward foreign currency contracts included in the three months ended March 26, 2016 and March 28, 2015 was $0.5 million and zero, respectively and are included in other income (expense), net, in the consolidated statements of operations.

The following table summarizes the Company's outstanding derivative instruments on a gross basis as of March 26, 2016:

	Notional Principal (in millions)
Undesignated Hedges:	
Forward Foreign Currency Contracts	$ 23.3

Note 4. Cash and Investments

The following tables present cash, cash equivalents, and available-for-sale investments as of the following dates (in thousands):

	March 26, 2016			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Market Value
Cash	$33,145	$ —	$ —	$ 33,145
Cash equivalents:				
Money market funds	1,075	—	—	1,075
Commercial paper and corporate debt securities	4,452	—	—	4,452
Marketable securities:				
Commercial paper	699	—	—	699
U.S. Treasury securities	6,971	2	—	6,973
U.S. Government agency securities	23,231	4	(8)	23,227

Municipal securities	2,634	—	(3)	2,631
Corporate debt securities	11,147	2	(6)	11,143
Total cash, cash equivalents, and marketable securities	$83,354	$ 8	$ (17)	$ 83,345

	December 26, 2015			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Market Value
Cash	$32,996	$ —	$ —	$ 32,996
Cash equivalents:				
Money market funds	590	—	—	590
Commercial paper and corporate debt securities	4,568	—	—	4,568
Marketable securities:				
Commercial paper	1,884	—	—	1,884
U.S. Treasury securities	4,411	—	(10)	4,401
U.S. Government agency securities	20,193	1	(29)	20,165
Municipal securities	3,747	1	(3)	3,745
Corporate debt securities	14,759	—	(23)	14,736
Total cash, cash equivalents, and marketable securities	$83,148	$ 2	$ (65)	$ 83,085

Available-for-sale marketable securities, readily convertible to cash, with maturity dates of 90 days or less are classified as cash equivalents, while those with maturity dates greater than 90 days are classified as marketable securities within short-term assets. All

NANOMETRICS INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

(Unaudited)

marketable securities as of March 26, 2016 and December 26, 2015, were available-for-sale and reported at fair value based on the estimated or quoted market prices as of the balance sheet date. Gross realized gains and losses on sale of securities are recorded in other income, net, in our statement of operations. Net realized gains and losses for three months ended March 26, 2016 and March 28, 2015 were $0.1 million and $0.1 million, respectively.

Unrealized gains or losses, net of tax effect, are recorded in accumulated other comprehensive income (loss) within stockholders' equity. Both the gross unrealized gains and gross unrealized losses for the three months ended March 26, 2016 and March 28, 2015 were insignificant and no marketable securities had other than temporary impairment. All marketable securities as of March 26, 2016 and December 26, 2015, had maturity dates of less than two years and were not invested in foreign entities.

Note 5. Accounts Receivable

The Company maintains arrangements under which eligible accounts receivable in Japan are sold without recourse to unrelated third-party financial institutions. These receivables were not included in the consolidated balance sheets as the criteria for sale treatment had been met. The Company pays administrative fees as well as interest ranging from 0.82% to 1.68% based on the anticipated length of time between the date the sale is consummated and the expected collection date of the receivables sold. The Company sold $14.2 million and $1.1 million of receivables during the three months ended March 26, 2016 and March 28, 2015, respectively. There were no material gains or losses on the sale of such receivables. There were no amounts due from such third party financial institutions at March 26, 2016 and December 26, 2015.

NANOMETRICS INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

(Unaudited)

Note 6. Financial Statement Components

The following tables provide details of selected financial statement components as of the following dates (in thousands):

	At March 26, 2016	December 26, 2015
Inventories:		
Raw materials and sub-assemblies	$26,819	$26,784
Work in process	16,094	12,862
Finished goods	6,980	8,103
Inventories	49,893	47,749
Inventories-delivered systems	4,138	2,856
Total inventories	$54,031	$50,605
Property, plant and equipment, net:[1]		
Land	$15,569	$15,569
Building and improvements	20,216	20,158
Machinery and equipment	33,338	32,995
Furniture and fixtures	2,259	2,266
Software	8,245	8,245
Capital in progress	1,278	1,328
Total property, plant and equipment, gross	80,905	80,561
Accumulated depreciation and amortization	(37,837)	(36,068)
Total property, plant and equipment, net	$43,068	$44,493

[1] Total depreciation and amortization expense for the three months ended March 26, 2016 and March 28, 2015 was $1.7 million for both periods.

Other Current Liabilities:		
Accrued warranty	$4,377	$4,504
Accrued restructuring	82	256
Accrued professional services	661	481
Fair value of current portion of contingent payments to Zygo Corporation related to acquisition	940	945
Other	2,918	2,692
Total other current liabilities	$8,978	$8,878

Components of Accumulated Other Comprehensive Income (Loss)

	Foreign Currency Translations	Defined Benefit Pension Plans	Unrealized Income (Loss) on Investment	Accumulated Other Comprehensive Income
Balance as of December 26, 2015	$(4,948)	$ (210)	$ (44)	$ (5,202)
Current period change	952	—	35	987
Balance as of March 26, 2016	$(3,996)	$ (210)	$ (9)	$ (4,215)

The items above, except for unrealized income (loss) on investment, did not impact the Company's income tax provision. The amounts reclassified from each component of accumulated other comprehensive income into income statement line items were insignificant.

NANOMETRICS INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

(Unaudited)

Note 7. Goodwill and Intangible Assets

The following table summarizes the activity in the Company's goodwill during the three months ended March 26, 2016 (in thousands):

Balance as of December 26, 2015	$9,415
Foreign currency movements	177
Balance as of March 26, 2016	$9,592

Finite-lived intangible assets are recorded at cost, less accumulated amortization. Finite-lived intangible assets as of March 26, 2016 and December 26, 2015 consisted of the following (in thousands):

	March 26, 2016		
	Adjusted cost	Accumulated amortization	Net carrying amount
Developed technology	$16,251	$ (14,941)	$ 1,310
Customer relationships	9,380	(9,380)	—
Brand names	1,927	(1,927)	—
Patented technology	2,252	(2,137)	115
Trademark	80	(80)	—
Total	$29,890	$ (28,465)	$ 1,425

	December 26, 2015		
	Adjusted cost	Accumulated amortization	Net carrying amount
Developed technology	$16,098	$ (14,387)	$ 1,711
Customer relationships	9,364	(9,364)	—
Brand names	1,927	(1,903)	24
Patented technology	2,252	(2,120)	132
Trademark	80	(80)	—
Total	$29,721	$ (27,854)	$ 1,867

The amortization of finite-lived intangibles is computed using the straight-line method. Estimated lives of finite-lived intangibles range from two to ten years. Total amortization expense for the three months ended March 26, 2016 and March 28, 2015 was $0.5 million and $0.7 million, respectively.

There were no impairment charges related to intangible assets recorded during the three months ended March 26, 2016 and March 28, 2015.

The estimated future amortization expense of finite intangible assets as of March 26, 2016 is as follows (in thousands):

Fiscal Years	Amounts
2016 (remaining nine months)	$ 1,013
2017	206
2018	140
2019	66
Thereafter	—
Total future amortization expense	$ 1,425

NANOMETRICS INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

(Unaudited)

Note 8. Warranties

The Company sells the majority of its products with a 12 months repair or replacement warranty from the date of acceptance or shipment date. The Company provides an accrual for estimated future warranty costs based upon the historical relationship of warranty costs to the cost of products sold. The estimated future warranty obligations related to product sales are recorded in the period in which the related revenue is recognized. The estimated future warranty obligations are affected by the warranty periods, sales volumes, product failure rates, material usage, and labor and replacement costs incurred in correcting a product failure. If actual product failure rates, material usage, labor or replacement costs were to differ from the Company's estimates, revisions to the estimated warranty obligations would be required. For new product introductions where limited or no historical information exists, the Company may use warranty information from other previous product introductions to guide it in estimating its warranty accrual.

Components of the warranty accrual, which were included in the accompanying condensed consolidated balance sheets with other current liabilities, were as follows (in thousands):

	Three Months Ended	
	March 26, 2016	March 28, 2015
Balance as of beginning of period	$4,504	$2,953
Accruals for warranties issued during period	1,061	1,702
Settlements during the period	(1,188)	(1,215)
Balance as of end of period	$4,377	$3,440

Note. 9. Restructuring

There were no restructuring charges recorded during the three months ended March 26, 2016.

The Company recorded a restructuring charge of approximately $0.1 million during the three months ended March 28, 2015 as a result of its decision to consolidate and reorganize certain of its operations, primarily in the U.K. The Company completed this restructuring plan in March 2015. Other related costs will be recognized as incurred.

As of March 26, 2016, the components of the Company's restructuring reserves were included in other current liabilities and were as follows (in thousands):

	Employee severance and benefits	Facility termination costs	Other	Total
Balance as of December 26, 2015	$ —	$ 249	$ 7	$256
Charges	—	—	—	—
Cash Payments	—	(174)	—	(174)
Balance as of March 26, 2016	$ —	$ 75	$ 7	$82

	Employee severance and benefits	Facility termination costs	Other	Total
Balance as of December 27, 2014	$ 383	$ 583	$ 31	$997
Charges	45	—	13	58
Cash Payments	(308)	(106)	(35)	(449)
Balance as of March 28, 2015	$ 120	$ 477	$ 9	$606

NANOMETRICS INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

(Unaudited)

Note 10. Line of Credit and Debt Obligations

Line of Credit - On May 30, 2014, the Company amended its revolving line of credit facility (i) to extend the maturity date of such facility by two years to May 30, 2016, and (ii) to increase the minimum amount available to borrow to $12.0 million. The instrument governing the line of credit facility includes certain financial covenants regarding tangible net worth. The revolving line of credit agreement includes a provision for the issuance of commercial or standby letters of credit by the bank on behalf of the Company. The value of all letters of credit outstanding reduces the total line of credit available. The revolving line of credit is collateralized by a blanket lien on all of the Company's domestic assets excluding intellectual property and real estate. The minimum borrowing interest rate is 3.00% per annum. Borrowing is limited to the lesser of (a) $12.0 million plus the borrowing base, or (b) $20.0 million. The total borrowing base available as of March 26, 2016 was $18.0 million. As of March 26, 2016, the Company was not in breach of any restrictive covenants in connection with this line of credit. There were no outstanding amounts drawn on this facility as of March 26, 2016. Although management has no current plans to request advances under this credit facility, the Company may use the proceeds of any future borrowing for general corporate purposes, future acquisitions or expansion of the Company's business.

Note 11. Commitments and Contingencies

Intellectual Property Indemnification Obligations – The Company will, from time to time, in the normal course of business, agree to indemnify certain customers, vendors or others against third party claims that the Company's products, when used for their intended purpose(s), or the Company's intellectual property, infringe the intellectual property rights of such third parties or other claims made against parties with whom it enters into contractual relationships. It is not possible to determine the maximum potential amount of liability under these indemnification obligations due to the limited history of prior indemnification claims and the unique facts and circumstances that are likely to be involved in each particular claim. Historically, the Company has not made payments under these obligations and believes that the estimated fair value of these agreements is immaterial. Accordingly, no liabilities have been recorded for these obligations in the accompanying condensed consolidated balance sheets as of March 26, 2016 and December 26, 2015.

Note 12. Net Income Per Share

The Company presents both basic and diluted net income per share on the face of its condensed consolidated statements of operations. Basic net income per share excludes the effect of potentially dilutive shares and is computed by dividing net income by the weighted-average number of shares of common stock outstanding for the period. Diluted net income per share is computed using the weighted-average number of shares of common stock outstanding

for the period plus the effect of all dilutive securities representing potential shares of common stock outstanding during the period.

A reconciliation of the share denominator of the basic and diluted net income per share computations for three months ended March 26, 2016 and March 28, 2015 is as follows (in thousands):

	Three Months Ended	
	March 26, 2016	March 28, 2015
Weighted average common shares outstanding used in basic net income (loss) per share calculation	24,308	23,866
Potential dilutive common stock equivalents, using treasury stock method	289	391
Weighted average shares used in diluted net income (loss) per share calculation	24,597	24,257

NANOMETRICS INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

(Unaudited)

Note 13. Stockholders' Equity and Stock-Based Compensation

Options and Employee Stock Purchase Plan ("ESPP") Awards

The fair value of each option and ESPP award is estimated on the grant date using the Black-Scholes valuation model and the assumptions noted in the following table. The expected lives of options granted were calculated using the simplified method allowed by the SAB 107. The risk-free rates were based on the U.S Treasury rates in effect during the corresponding period of grant. The expected volatility was based on the historical volatility of the Company's stock price. The dividend yield reflects that the Company has not paid any cash dividends since inception and does not intend to pay any cash dividends in the foreseeable future.

	March 26, 2016	March 28, 2015
Employee Stock Purchase Plan:		
Expected life	0.5 years	0.5 years
Volatility	39.1 %	37.2 %
Risk free interest rate	0.49 %	0.11 %
Dividends	—	—

No stock options were awarded during the three months ended March 26, 2016 and March 28, 2015, respectively.

A summary of activity of stock options during the three months ended March 26, 2016 is as follows:

	Number of Shares Outstanding (Options)	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value (in Thousands)
Options				
Outstanding at December 26, 2015	1,051,867	$ 14.60	2.46	$ 1,916
Exercised	(5,846)	$ 13.74		

Cancelled	(137,633)	$ 16.26		
Outstanding at March 26, 2016	908,388	$ 14.36	2.60	$ 1,269
Exercisable at March 26, 2016	799,365	$ 14.09	2.34	$ 1,265

The aggregate intrinsic value in the above table represents the total pretax intrinsic value, based on the Company's closing stock price of $14.13 as of March 24, 2016, the last trading day of the quarter, which would have been received by the option holders had all option holders exercised their options as of that date. The total intrinsic value of options exercised during the three months ended March 26, 2016 and March 28, 2015 was $3,000 and $0.8 million, respectively.

Restricted Stock Units ("RSUs")

Time-based RSUs are valued using the market value of the Company's common stock on the date of grant, assuming no expectation of dividends paid.

A summary of activity for RSUs is as follows:

Summary of activity for RSUs	Number of RSUs	Weighted Average Fair Value
Outstanding RSUs as of December 26, 2015	713,243	$ 15.99
Granted	137,718	$ 13.29
Released	(108,305)	$ 17.13
Cancelled	(14,348)	$ 15.48
Outstanding RSUs as of March 26, 2016	728,308	$ 15.32

NANOMETRICS INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

(Unaudited)

Market-Based Performance Stock Units (“PSUs”)

In addition to granting RSUs that vest on the passage of time only, the Company granted PSUs to an executive. The PSUs will vest in three equal tranches over one, two and three years based on the relative performance of the Company’s stock during those periods, compared to a peer group over the same period. If target stock price performance is achieved, 66.7% of the shares of the Company’s common stock subject to the PSUs will vest, and up to a maximum of 100% of the shares subject to the PSUs will vest if the maximum stock price performance is achieved for each tranche.

A summary of activity for PSUs is as follows:

Summary of activity for PSUs	Number of PSUs	Weighted Average Fair Value
Outstanding PSUs as of December 26, 2015	60,000	$ 18.35
Granted	67,500	$ 12.78
Released	(13,333)	$ 18.04
Cancelled	(6,667)	$ 18.04
Outstanding PSUs as of March 26, 2016	107,500	$ 14.91

The preceding table reflects the maximum awards that can be achieved upon full vesting.

Valuation of PSUs

On the date of grant, the Company estimated the fair value of PSUs using a Monte Carlo simulation model. The assumptions for the valuation of PSUs are summarized as follows:

	2016 Award	2015 Award
Grant Date Fair Value Per Share	$ 12.78	$ 18.35
Weighted-average assumptions/inputs:		
Expected Dividend	—	—
Range of risk-free interest rates	0.92%	0.25%-1.1%
Range of expected volatilities for peer group	22%-93%	23%-65%

Stock-based Compensation Expense

Stock-based compensation expense for all share-based payment awards made to the Company’s employees and directors pursuant to the employee stock option and employee stock purchase plans by function were as follows (in

thousands):

	March 26, 2016	March 28, 2015
Cost of products	$67	$73
Cost of service	104	46
Research and development	285	280
Selling	492	500
General and administrative	741	672
Total stock-based compensation expense related to employee stock options and employee stock purchases	$1,689	$1,571

NANOMETRICS INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

(Unaudited)

Note 14. Income Taxes

The Company accounts for income taxes under the provisions of ASC 740, Accounting for Income Taxes. The Company adjusts its effective tax rate each quarter to be consistent with the estimated annual effective tax rate. The Company also records the tax effect of unusual or infrequently occurring discrete items, including changes in judgment about valuation allowances and effects of changes in tax laws or tax rates, in the interim period in which they occur. The Company's effective tax rate reflects the impact of a portion of its earnings being taxed in foreign jurisdictions as well as a valuation allowance maintained on certain deferred tax assets.

The provision for income taxes consists of the following (in thousands):

	Three Months Ended	
	March 26, 2016	March 28, 2015
Provision for income taxes	$380	$ 317

The Company recorded a tax provision of $0.4 million and $0.3 million for the three months ended March 26, 2016 and March 28, 2015, respectively. The increase in the tax provision for 2016 from 2015 was primarily related to an increase in foreign earnings for the three months ended March 26, 2016.

As of March 26, 2016, the Company continues to maintain a valuation allowance against its U.S. and certain foreign deferred tax assets as a result of uncertainties regarding the realization of the asset due to cumulative losses and uncertainty of future taxable income. The Company will continue to assess the realizability of the deferred tax assets in each of the applicable jurisdictions and maintain the valuation allowances until sufficient positive evidence exists to support a reversal. In the event the Company determines that the deferred tax assets are realizable, an adjustment to the valuation allowance will be reflected in the tax provision for the period such determination is made.

The Company is subject to taxation in the U.S. and various states including California, and foreign jurisdictions including Korea, Japan, Taiwan, and China. Due to tax attribute carry-forwards, the Company is subject to examination for tax years 2003 forward for U.S. tax purposes. The Company is also subject to examination in various states for tax years 2002 forward. The Company is subject to examination for tax years 2007 forward for various foreign jurisdictions.

The Company accrues interest and penalties related to unrecognized tax benefits in its provision for income taxes. The total amount of penalties and interest were not material as of March 26, 2016 and March 28, 2015. During the next twelve months, the Company anticipates increases in its unrecognized tax benefits of approximately $0.1 million.

Note 15. Segment, Geographic, Product and Significant Customer Information

The Company has one operating segment, which is the sale, design, manufacture, marketing and support of optical critical dimension and thin film systems. The following tables summarize total net revenues and long-lived assets (excluding intangible assets) attributed to significant countries (in thousands):

	Three Months Ended	
	March 26, 2016	March 28, 2015
Total net revenues [1]:		
United States	$7,191	$9,078
South Korea	8,436	14,643
China	6,506	4,001
Taiwan	5,477	14,428
Singapore	9,902	2,794
Other	9,977	5,432
Total net revenues	$47,489	$50,376

NANOMETRICS INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

(Unaudited)

	March 26, 2016	December 26, 2015
Long-lived tangible assets:		
United States	$41,281	$ 42,581
Japan	63	59
South Korea	664	697
All Other	1,060	1,156
Total long-lived tangible assets	$43,068	$ 44,493

The following customers accounted for 10% or more of total accounts receivable, net:

	At March 26, 2016	December 26, 2015
Micron	30.7%	***
SK Hynix	12.7%	***
Taiwan Semiconductor Manufacturing Company Limited	12.6%	25.6 %
Intel	11.1%	***
Toshiba Corporation	11.1%	27.1 %
Samsung Electronics Co. Ltd.	***	***

***The customer accounted for less than 10% of total accounts receivable, net, as of that period end.

The following customers accounted for 10% or more of total net revenues:

	Three Months Ended	
	March 26, 2016	March 28, 2015
Micron	25.9%	***
SK Hynix	16.7%	13.4 %
Intel Corporation	15.7%	***

Toshiba Corporation	11.9%	***
Taiwan Semiconductor Manufacturing Company Limited	10.1%	22.3 %
Samsung Electronics Co. Ltd.	***	30.3 %

*** The customer accounted for less than 10% of total net revenues during the period.

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 that involve risks and uncertainties. The statements contained in this document that are not purely historical are forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, including, without limitation, statements regarding future periods, financial results, revenues, margins, growth, customers, tax rates, product performance, and the impact of accounting rules on our business and the future implications of our statements regarding goals, strategy, and similar terms. We may identify these statements by the use of words such as "anticipate," "believe," "continue," "could," "estimate," "expect," "may," "might," "plan," "project," "will," and other similar expressions. All forward-looking statements included in this document are based on information available to us on the date hereof, and we assume no obligation to update any such forward-looking statements, except as may otherwise be required by law.

Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain risks, uncertainties and changes in circumstances, many of which may be difficult to predict or beyond our control, including those factors referenced in this document, and in Part I, Item 1A, Risk Factors, in our Annual Report on Form 10-K for the fiscal year ended December 26, 2015. In particular our results could vary significantly based on: changes in customer and industry spending; rate and extent of changes in product mix; adoption of new products; timing of orders, shipments, and acceptance of products; our ability to secure volume supply agreements; and general economic conditions. In evaluating our business, investors should carefully consider these factors in addition to any other risks and uncertainties set forth elsewhere. The occurrence of the events described in the risk factors and elsewhere in this report as well as other risks and uncertainties could materially and adversely affect our business, operating results and financial condition. While management believes that the discussion and analysis in this report is adequate for a fair presentation of the information presented, we recommend that you read this discussion and analysis in conjunction with (i) our audited consolidated financial statements and notes thereto for the fiscal year ended December 26, 2015, which were included in our 2015 Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC") on February 24, 2016, and (ii) our other filings with the SEC.

We are an innovator in the field of metrology and inspection systems for semiconductor manufacturing and other industries. Our systems are designed to precisely monitor optical critical dimensions and film thickness that are necessary to control the manufacturing process and to identify defects that can affect production yields and performance.

Principal factors that impact our revenue growth include capital expenditures by manufacturers of semiconductors to increase capacity and to enable their development of new technologies, and our ability to improve market share. The increasing complexity of the manufacturing processes for semiconductors is an important factor in the demand for our innovative metrology systems, as are the adoption of optical critical dimension ("OCD") metrology across fabrication processes, immersion lithography and multiple patterning, new types of thin film materials, advanced packaging strategies and wafer backside inspection, and the need for improved process control to drive process efficiencies. Our strategy is to continue to innovate organically as well as to evaluate strategic acquisitions to address business challenges and opportunities.

Our revenues are primarily derived from product sales and system upgrades but are also derived from customer service for the installed base of our products. For the three months ended March 26, 2016, we derived 83% of our total net revenues from product sales and upgrades, and 17% of our total net revenues from services.

Overview

Together with our subsidiaries, we are a leading provider of advanced, high-performance process control metrology and inspection systems used primarily in the fabrication of integrated circuits, sensors, discrete components,

high-brightness LEDs (“HB-LED”), and data storage devices. Our automated and integrated systems address numerous process control applications, including critical dimension and film thickness measurement, device topography, defect inspection, and analysis of various other film properties such as optical, electrical and material characteristics. Our process control solutions are deployed throughout the fabrication process, from front-end-of-line substrate manufacturing, to high-volume production of semiconductors and other devices, to advanced wafer-scale packaging applications. Our systems enable device manufacturers to improve yields, increase productivity and lower their manufacturing costs.

Nanometrics Products

We offer a diverse line of systems to address the broad range of process control requirements of the semiconductor manufacturing industry. In addition, we believe that our engineering expertise, strategic acquisitions enable us to develop and offer advanced process control solutions that, in the future, should address industry advancement and trends.

Automated Systems

Our automated systems primarily consist of fully automated metrology systems that are employed in semiconductor production environments. The Atlas® II, Atlas III, Atlas II+ and Atlas XP/Atlas XP+ represent our line of high-performance metrology systems providing optical critical dimension ("OCD"), thin film metrology and wafer stress for transistor and interconnect metrology applications. The OCD technology is supported by our NanoCD® suite of solutions including our NanoDiffract® software and NanoGen™ scalable computing engine that enables visualization, modeling, and analysis of complex structures. The UniFire™ system measures multiple parameters at any given process step in the advanced packaging process flow for critical dimension, overlay, and topography applications and has recently added inspection capabilities for both front-end-of-line ("FEOL") patterned wafer and advanced packaging related applications.

Integrated Systems

Our integrated metrology ("IM") systems are installed directly onto wafer processing equipment to provide near real-time measurements for improved process control and maximum throughput. Our IM systems are sold directly to end customers. The IMPLULSE+ and IMPULSE® systems represent our latest metrology platform for OCD, and thin film metrology, and have been successfully qualified on numerous independent Wafer Fabrication Equipment Suppliers' platforms. Our NanoCD suite of solutions is sold in conjunction with our IMPULSE® systems. Our Trajectory® system provides in-line measurement of layers in thin film thickness and composition in semiconductor applications and is qualified in production with major device makers.

Materials Characterization

Our materials characterization products include systems that are used to monitor the physical, optical, electrical and material characteristics of discrete electronic industry, opto-electronic, HB-LED, solar PV, compound semiconductor, strained silicon and silicon-on-insulator ("SOI") devices, including composition, crystal structure, layer thickness, dopant concentration, contamination and electron mobility.

Our Imperia™ is a photoluminescence ("PL") full wafer imaging and mapping system designed for high-volume compound semiconductor metrology applications including power control and photonics applications adding significant inspection and substrate metrology capability to the established PL fleet. The RPMBlue™ is our latest PL mapping system designed specifically for the HB-LED market, and is complemented by the RPMBlue-FS, enabling a breadth of research and development configurability. We sell Fourier-Transform Infrared ("FTIR") automated and manual systems in the QS2200/3300 and QS1200 respectively. The FTIR systems are spectrometers designed for non-destructive wafer analysis for various applications. The NanoSpec® line, including the NanoSpec II, supports thin film measurement across all applications in both low volume production and research applications.

We are continually working to strengthen our competitive position by developing new technologies and products in our market segment. We have expanded our product offerings to address growing applications within the semiconductor manufacturing and adjacent industries. In pursuit of our goals, we have:

- Introduced new products, applications, and upgrades in every core product line and primary market served;
- Diversified our product line and served markets through acquisitions, such as: the 2006 acquisition of Accent Optical Technologies, Inc., a supplier of overlay and thin film metrology and process control systems; the 2008 acquisition of Tevet Process Control Technologies ("Tevet"), an integrated metrology supplier; the 2009 acquisition of the UniFire™ product line from Zygo Corporation, a wholly owned subsidiary of AMETEK, Inc.; and the 2011 acquisition of Nanda Technologies GmbH, a supplier of high sensitivity, high throughput defect inspection systems;
- Continued development of new measurement and inspection technologies for advanced fabrication processes; and

- Researched and developed innovative applications of existing technology to new market opportunities within the solar PV, HB-LED, discrete device, and data storage industries, and advanced packaging processes.

22

Important Themes and Significant Trends

The semiconductor equipment industry is characterized by cyclical growth. Changing trends in the semiconductor industry continue to drive the need for metrology as a major component of device manufacturing. These trends include:

- Proliferation of Optical Critical Dimension Metrology across Fabrication Processes. Our customers use photolithographic processes to create patterns on wafers. Critical dimensions must be carefully controlled during this process. In advanced node device definition, additional monitoring of thickness and profile dimensions on these patterned structures at Chemical Mechanical Polishing, Etch, and Thin Film processing is driving broader OCD adoption. Our proprietary OCD systems can provide the critical process control of these circuit dimensions that is necessary for successful manufacturing of these state-of-the-art devices. Nanometrics OCD technology is broadly adopted across NAND, DRAM, and logic semiconductor manufacturing processes.
- Development of 3D Transistor Architectures. Our end customers continue to improve device density and performance by scaling FEOL transistor architectures. Many of these designs, including FinFET transistors and 3D-NAND, have buried features and high aspect ratio stacked features that enable improved performance and density. The advanced designs require additional process control to manage the complex shapes and materials properties, driving additional applications for both OCD and our UniFire systems.
- Adoption of Advanced Packaging Processes. Our customers use photolithography, etching, metallization and wafer thinning to enable next generation advanced packaging solutions for semiconductor devices. These new packaging techniques lead to increased functionality in smaller, less expensive form factors. Advanced packages can be broken down into high density flip chip or bump packages that increase pin density allowing for more complex I/O on advanced CPU parts. Similar or different devices can be stacked at the wafer level using a Through Silicon Via (“TSV”) process. The TSV process enables high density small form factor parts, being primarily driven by mobile consumer products (e.g. cellular telephones with integrated CMOS camera sensors). Increasingly advanced packaging technologies are being adopted by our end customers.
- Adoption of New Types of Thin Film Materials. The need for ever increasing device circuit speed coupled with lower power consumption has pushed semiconductor device manufacturers to begin the replacement of traditional aluminum etch back interconnect flows, as well as conventional gate dielectric materials, with new materials and processes that are driving broader adoption of thin film and OCD metrology systems. To achieve greater semiconductor device speed, manufacturers have adopted copper in Logic/IDM and it is now proliferating in next generation DRAM and Flash nodes. Additionally, to achieve improved transistor performance in logic devices and higher cell densities in memory devices, new materials including high dielectric constant (or high-k) gate materials are increasingly being substituted for traditional silicon-oxide gate dielectric materials. High-k materials comprise complex thin films including layers of hafnium oxide and a bi-layer of thin film metals. Our advanced metrology and inspection solutions are required for control of process steps, which are critical to enable the device performance improvements that these new materials allow.
- Need for Improved Process Control to Drive Process Efficiencies. Competitive forces influencing semiconductor device manufacturers, such as price-cutting, shorter product life cycles and time to market, place pressure on manufacturers to rapidly achieve production efficiency. Device manufacturers are using our integrated and automated systems throughout the fabrication process to ensure that manufacturing processes scale rapidly, are accurate and can be repeated on a consistent basis.

Critical Accounting Policies

The preparation of our financial statements conforms to accounting principles generally accepted in the United States of America, which requires management to make estimates and judgments in applying our accounting policies that have an important impact on our reported amounts of assets, liabilities, revenue, expenses and related disclosures at the date of our financial statements. On an ongoing basis, management evaluates its estimates including those related to bad debts, inventory valuations, warranty obligations, impairment and income taxes. 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 management's estimates.

There were no significant changes in our critical accounting policies during the three months ended March 26, 2016. Please refer to Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," in our Annual Report on Form 10-K for the fiscal year ended December 26, 2015 for a complete discussion of our critical accounting policies.

Recent Accounting Pronouncements

See Note 2 of the Unaudited Condensed Consolidated Financial Statements for a description of recent accounting pronouncements, including the respective dates of adoption and effects or anticipated effects on our results of operations and financial condition.

Upgrade Revenue and Related Cost

During the first quarter of 2016, revenues associated with upgrade sales are now included under Products Revenues, and the related costs in Cost of Products Revenue. This change was due to the types of upgrades currently being sold, which are primarily system software and hardware performance upgrades to extend the features and functionality of a product. Previously upgrades consisted of a group of parts and/or software that change the existing configuration of a product. For the three months ended March 28, 2015, $4.6 million related to upgrade sales, and $1.8 million of costs, are in included in Service Revenues and Costs of Service Revenues.

Results of Operations

Net Revenues

Our net revenues comprised the following product lines (in thousands, except percentages):

	Three Months Ended March 26, 2016	March 28, 2015	Change	
Automated systems	$28,614	$30,506	$(1,892)	-6.2 %
Integrated systems	8,293	4,725	$3,568	75.5 %
Materials characterization systems	2,307	3,108	$(801)	-25.8%
Total product revenue	39,214	38,339	$875	2.3 %
Service	8,275	12,037	$(3,762)	-31.3%
Total net revenues	$47,489	$50,376	$(2,887)	-5.7 %

For the three months ended March 26, 2016, total net revenues decreased by $2.9 million relative to the comparable 2015 period. For 2016, upgrade sales are included in Product Revenues. For the three months ended March 28, 2015, Product Revenues do not include $4.6 million related to upgrade sales, which are included in Service Revenues. Had upgrade sales been included in Product Revenues in 2015, Product Revenues would have decreased by $3.7 million. The decrease was primarily attributable to sales of our Automated Systems (principally the Atlas® line), which declined by $6.3 million due primarily to a decline in revenue from our customers in the DRAM and Logic markets, partially offset by an increase in revenue from our customers in the 3D-NAND market, and sales of our Materials Characterization systems, which declined by $0.9 million. The overall decrease was partially offset by a $3.4 million increase in Integrated Systems sales (principally IMPULSE®) due principally to an increase in revenue from our customers in the 3D-NAND market, and a $0.8 million increase in service revenues. Capital spending by our customers is dependent on the timing of new semiconductor fabrication plants, capacity expansion within existing plants, and the adoption of new technology for current and future manufacturing needs. Future results will vary significantly based on changes in any of these factors.

With a significant portion of the world's semiconductor manufacturing capacity located in Asia, a substantial portion of our revenues continue to be generated in that region. Although sales to customers within individual countries of that region will vary from time to time, we expect that a substantial portion of our revenues will continue to be generated in Asia.

Gross margin

Our gross margin breakdown was as follows:

	Three Months Ended	
	March 26, 2016	March 28, 2015
Products	52.8%	46.2 %
Service	45.8%	47.1 %

The calculation of product gross margin includes both cost of products, and in 2016, related upgrades, and amortization of intangibles. The gross margin on product revenue increased to 52.8% in the three months ended March 26, 2016 from 46.2% in the three months ended March 28, 2015, reflecting an increase of 6.6 percentage points from the comparable 2015 period. Had upgrade sales and related cost been included in Product Revenues and Cost of Product Revenues, Product Gross Margin for the three months ended March 28, 2015 would have been 47.8%. The increase in 2016 of 5.0 percentage points over this amount was due to a change in product mix to higher margin products and upgrades, as well as improved factory utilization during the three months ended March 26,

2016. The gross margin on our services business decreased to 45.8% in the three months ended March 26, 2016 from 47.1% in the three months ended March 28, 2015, reflecting a decrease of 1.3 percentage points. Had upgrade sales and related cost been excluded from Service Revenues and Cost of Service Revenues, Service Gross Margin for the three months ended March 28, 2015, would have been 38.4%. The increase in 2016 over this amount was due to increase in the service revenues on relatively flat costs.

Operating expenses

Our operating expenses comprised the following categories (in thousands, except percentages):

	Three Months Ended March 26, 2016	March 28, 2015	Change	
Research and Development	$8,068	$8,159	$(91)	-1.1 %
Selling	7,249	7,116	133	1.9 %
General and administrative	5,420	5,767	(347)	-6.0 %
Amortization of intangible assets	24	38	(14)	-36.8%
Restructuring charge	—	58	(58)	NM*
Total operating expenses	$20,761	$21,138	$(377)	-1.8 %

*NM = not meaningful

Research and development

Research and development costs decreased by $0.1 million or 1.1% in the three months ended March 26, 2016 compared to the three months ended March 28, 2015 due primarily to a lower level of non-recurring engineering expenses.

Selling