

IPG PHOTONICS CORP
Form 10-Q
November 02, 2016
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

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

For the quarterly period ended September 30, 2016
OR

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

Commission File Number 001-33155

IPG PHOTONICS CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	04-3444218
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

50 Old Webster Road, Oxford, Massachusetts	01540
(Address of principal executive offices) (Zip code)	
(508) 373-1100	
(Registrant's telephone number, including area code)	

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

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

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.

Large Accelerated Filer Accelerated Filer
Non-Accelerated Filer Smaller Reporting Company

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

As of November 1, 2016, there were 53,107,342 shares of the registrant's common stock issued and outstanding.

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PART I-FINANCIAL INFORMATION
ITEM 1. UNAUDITED INTERIM FINANCIAL STATEMENTS
IPG PHOTONICS CORPORATION
CONSOLIDATED BALANCE SHEETS

	September 30, 2016	December 31, 2015
	(In thousands, except share and per share data)	
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	\$645,558	\$582,532
Short-term investments	126,970	106,584
Accounts receivable, net	162,725	150,479
Inventories	242,370	203,738
Prepaid income taxes	35,342	33,692
Prepaid expenses and other current assets	38,913	25,564
Deferred income taxes, net	24,620	20,346
Total current assets	1,276,498	1,122,935
DEFERRED INCOME TAXES, NET	15,371	9,386
GOODWILL	20,142	505
INTANGIBLE ASSETS, NET	28,372	11,904
PROPERTY, PLANT AND EQUIPMENT, NET	367,474	288,604
OTHER ASSETS	19,441	20,095
TOTAL	\$1,727,298	\$1,453,429
LIABILITIES AND EQUITY		
CURRENT LIABILITIES:		
Current portion of long-term debt	\$3,188	\$2,000
Accounts payable	17,899	26,314
Accrued expenses and other liabilities	96,376	75,667
Deferred income taxes, net	4,047	3,190
Income taxes payable	34,117	37,809
Total current liabilities	155,627	144,980
DEFERRED INCOME TAXES AND OTHER LONG-TERM LIABILITIES	30,223	30,117
LONG-TERM DEBT, NET OF CURRENT PORTION	38,432	17,667
Total liabilities	224,282	192,764
COMMITMENTS AND CONTINGENCIES (NOTE 12)		
IPG PHOTONICS CORPORATION EQUITY:		
Common stock, \$0.0001 par value, 175,000,000 shares authorized; 53,171,115 shares issued and 53,129,315 shares outstanding at September 30, 2016; 52,883,902 shares issued and outstanding at December 31, 2015	5	5
Treasury stock, at cost (41,800 and 0 shares held)	(3,483)	—
Additional paid-in capital	635,778	607,649
Retained earnings	1,018,976	833,356
Accumulated other comprehensive loss	(148,430)	(181,482)
Total IPG Photonics Corporation equity	1,502,846	1,259,528
NONCONTROLLING INTERESTS	170	1,137
Total equity	1,503,016	1,260,665

TOTAL

\$1,727,298 \$1,453,429

See notes to consolidated financial statements.

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CONSOLIDATED STATEMENTS OF INCOME

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
	(in thousands, except per share data)			
NET SALES	\$266,017	\$243,541	\$726,052	\$677,639
COST OF SALES	121,226	110,237	329,147	307,805
GROSS PROFIT	144,791	133,304	396,905	369,834
OPERATING EXPENSES:				
Sales and marketing	10,460	7,717	28,183	23,228
Research and development	20,543	16,221	56,444	45,565
General and administrative	16,797	14,679	46,849	42,474
Loss (gain) on foreign exchange	2,905	5,125	6,316	(460)
Total operating expenses	50,705	43,742	137,792	110,807
OPERATING INCOME	94,086	89,562	259,113	259,027
OTHER INCOME (EXPENSE), Net:				
Interest income (expense), net	373	(40)	835	(335)
Other income, net	194	132	342	378
Total other income (expense)	567	92	1,177	43
INCOME BEFORE PROVISION FOR INCOME TAXES	94,653	89,654	260,290	259,070
PROVISION FOR INCOME TAXES	(25,426)	(26,897)	(74,703)	(77,721)
NET INCOME	69,227	62,757	185,587	181,349
LESS: NET LOSS ATTRIBUTABLE TO NONCONTROLLING INTERESTS	(8)	(34)	(33)	(101)
NET INCOME ATTRIBUTABLE TO IPG PHOTONICS CORPORATION	\$69,235	\$62,791	\$185,620	\$181,450
NET INCOME ATTRIBUTABLE TO IPG PHOTONICS CORPORATION PER SHARE:				
Basic	\$1.30	\$1.19	\$3.50	\$3.45
Diluted	\$1.29	\$1.18	\$3.45	\$3.40
WEIGHTED AVERAGE SHARES OUTSTANDING:				
Basic	53,071	52,675	53,039	52,628
Diluted	53,761	53,392	53,752	53,390

See notes to consolidated financial statements.

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CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Three Months		Nine Months Ended	
	Ended September 30,		September 30,	
	2016	2015	2016	2015
	(In thousands)			
Net income	\$69,227	\$62,757	\$185,587	\$181,349
Other comprehensive income, net of tax:				
Translation adjustments	8,068	(16,540)	32,948	(43,634)
Unrealized (loss) gain on derivatives	(47)	—	104	95
Total other comprehensive loss	8,021	(16,540)	33,052	(43,539)
Comprehensive income	77,248	46,217	218,639	137,810
Comprehensive loss attributable to noncontrolling interest	(4)	(285)	(17)	(351)
Comprehensive income attributable to IPG Photonics Corporation	\$77,252	\$46,502	\$218,656	\$138,161

See notes to consolidated financial statements.

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CONSOLIDATED STATEMENTS OF CASH FLOWS

	Nine Months Ended September 30, 2016 2015 (In thousands)	
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net income	\$ 185,587	\$ 181,349
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	37,646	31,079
Deferred income taxes	(12,054)	(7,144)
Stock-based compensation	16,099	13,875
Unrealized losses (gains) on foreign currency transactions	6,044	(3,893)
Other	193	191
Provisions for inventory, warranty & bad debt	33,506	29,414
Changes in assets and liabilities that (used) provided cash:		
Accounts receivable	(10,853)	(20,004)
Inventories	(42,814)	(52,172)
Prepaid expenses and other current assets	(4,102)	2,062
Accounts payable	(9,816)	4,519
Accrued expenses and other liabilities	3,848	3,656
Income and other taxes payable	(7,439)	17,501
Excess tax benefit from exercise of equity instruments	(2,844)	(5,822)
Net cash provided by operating activities	193,001	194,611
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of and deposits on property, plant and equipment	(100,047)	(50,759)
Proceeds from sales of property, plant and equipment	220	231
Purchases of short-term investments	(179,374)	—
Proceeds from short-term investments	158,808	—
Acquisition of businesses, net of cash acquired	(46,527)	(4,958)
Other	16	63
Net cash used in investing activities	(166,904)	(55,423)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from line-of-credit facilities	6,030	7,506
Payments on line-of-credit facilities	(6,030)	(9,780)
Purchase of noncontrolling interests	(950)	—
Proceeds on long-term borrowings	23,750	—
Principal payments on long-term borrowings	(1,797)	(12,833)
Exercise of employee stock options and issuances under employee stock purchase plan	9,186	10,489
Excess tax benefit from exercise of equity instruments	2,844	5,822
Purchase of treasury stock, at cost	(3,483)	—
Net cash provided by financing activities	29,550	1,204
EFFECT OF CHANGES IN EXCHANGE RATES ON CASH AND CASH EQUIVALENTS	7,379	(11,322)
NET INCREASE IN CASH AND CASH EQUIVALENTS	63,026	129,070
CASH AND CASH EQUIVALENTS — Beginning of period	582,532	522,150
CASH AND CASH EQUIVALENTS — End of period	\$ 645,558	\$ 651,220
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:		
Cash paid for interest	\$ 623	\$ 688
Cash paid for income taxes	\$ 92,539	\$ 65,376

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Non-cash transactions:

Demonstration units transferred from inventory to other assets	\$2,916	\$1,995
Inventory transferred to machinery and equipment	\$4,056	\$2,371
Reductions to property, plant and equipment included in accounts payable	\$(430)	\$(178)

See notes to consolidated financial statements.

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CONSOLIDATED STATEMENTS OF EQUITY

	Nine Months Ended September 30,			
	2016		2015	
	(In thousands, except share and per share data)			
	Shares	Amount	Shares	Amount
COMMON STOCK				
Balance, beginning of year	52,883,902	\$5	52,369,688	\$5
Exercise of stock options	268,198	—	392,913	—
Common stock issued under employee stock purchase plan	19,015	—	17,623	—
Purchased common stock	(41,800)	—	—	—
Balance, end of period	53,129,315	5	52,780,224	5
TREASURY STOCK				
Balance, beginning of year	—	—	—	—
Purchased treasury stock	(41,800)	(3,483)	—	—
Balance, end of period	(41,800)	(3,483)	—	—
ADDITIONAL PAID-IN CAPITAL				
Balance, beginning of year		607,649		567,617
Stock-based compensation		16,099		13,875
Exercise of stock options and related tax benefit from exercise		10,737		15,203
Common stock issued under employee stock purchase plan		1,293		1,108
Balance, end of period		635,778		597,803
RETAINED EARNINGS				
Balance, beginning of year		833,356		591,202
Net income attributable to IPG Photonics Corporation		185,620		181,450
Balance, end of period		1,018,976		772,652
ACCUMULATED OTHER COMPREHENSIVE LOSS				
Balance, beginning of year		(181,482)		(112,263)
Translation adjustments		32,948		(43,634)
Change in unrealized gain on derivatives, net of tax		104		95
Balance, end of period		(148,430)		(155,802)
TOTAL IPG PHOTONICS CORPORATION EQUITY		\$1,502,846		\$1,214,658
NONCONTROLLING INTERESTS (NCI)				
Balance, beginning of year		1,137		—
Purchase of NCI		(950)		—
Attribution to NCI		—		1,579
Net loss attributable to NCI		(33)		(101)
Other comprehensive income (loss) attributable to NCI		16		(250)
Balance, end of period		170		1,228
TOTAL EQUITY		\$1,503,016		\$1,215,886

See notes to consolidated financial statements.

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IPG PHOTONICS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(In thousands, except share and per share data)

1. BASIS OF PRESENTATION

The accompanying unaudited consolidated financial statements have been prepared by IPG Photonics Corporation, or "IPG", "its" or the "Company". Certain information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America have been condensed or omitted pursuant to the rules and regulations of the Securities and Exchange Commission ("SEC"). The consolidated financial statements include the Company's accounts and those of its subsidiaries. All intercompany balances have been eliminated in consolidation. These consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto in the Company's Annual Report on Form 10-K for the year ended December 31, 2015.

In the opinion of the Company's management, the unaudited financial information for the interim periods presented reflects all adjustments necessary for a fair presentation of the Company's financial position, results of operations and cash flows. The results reported in these consolidated financial statements are not necessarily indicative of results that may be expected for the entire year.

The Company has evaluated subsequent events through the time of filing this Quarterly Report on Form 10-Q with the SEC.

2. RECENT ACCOUNTING PRONOUNCEMENTS

In March 2016, the FASB issued ASU No. 2016-09, "Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting" ("ASU 2016-09"). The standard is intended to simplify several areas of accounting for share-based compensation arrangements, including income tax impact, classification on the statement of cash flows and forfeitures. ASU 2016-09 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2016, and early adoption is permitted. The impact that the standard will have on the Company's consolidated financial statements will depend upon certain criteria including the timing of the exercise and release of equity instruments, the value realized upon exercise or release of equity instruments and the fair value of the equity instruments when they were granted. The excess tax benefit from the exercise of equity instruments was \$2,844 and \$5,822 for the nine months ended September 30, 2016 and 2015, respectively.

In February 2016, the FASB issued ASU No. 2016-02, "Leases (Topic 842)" ("ASU 2016-02"). The standard requires a lessee to recognize assets and liabilities on the balance sheet for leases with lease terms greater than 12 months. ASU 2016-02 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2018, and early adoption is permitted. The Company is currently evaluating the impact that the standard will have and does not expect it to have a material impact on its consolidated financial statements upon adoption.

In January 2016, the FASB issued ASU No. 2016-01, "Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities" ("ASU 2016-01"). The standard addresses certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. ASU 2016-01 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017, and early adoption is not permitted. The Company is currently evaluating the impact that the standard will have and does not expect it to have a material impact on its consolidated financial statements upon adoption.

In November 2015, the FASB issued amended guidance that clarifies that in a classified statement of financial position, an entity shall classify deferred tax liabilities and assets as non-current amounts. The new guidance supersedes ASC 740-10-45-5 which required the deferred tax assets and liabilities for a particular tax jurisdiction be allocated between current and non-current deferred tax assets for that tax jurisdiction on the basis of the financial accounting classification of the related asset or liability for which the temporary difference existed. The new standard will become effective for the Company's fiscal year beginning January 1, 2017. The Company has determined that the standard will not have a material impact on its consolidated financial statements upon adoption. Current deferred tax assets at September 30, 2016 and December 31, 2015 were \$24,620 and \$20,346, respectively. Current deferred tax liabilities at September 30, 2016 and December 31, 2015 were \$4,047 and \$3,190, respectively.

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In May 2014, the FASB issued Accounting Standards Update No. 2014-09 ("ASU 2014-09") "Revenue from Contracts with Customers." ASU 2014-09 supersedes the revenue recognition requirements in "Revenue Recognition (Topic 605)", and requires entities to recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. As currently issued and

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IPG PHOTONICS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

(In thousands, except share and per share data)

amended, ASU 2014-09 is effective for annual reporting periods beginning after December 15, 2017, including interim periods

within that reporting period, though early adoption is permitted for annual reporting periods beginning after December 15, 2016. The Company is currently in the process of evaluating the impact of the adoption of ASU 2014-09 on its consolidated financial statements and does not expect it to have a material impact on its consolidated financial statements upon adoption.

3. INVENTORIES

Inventories consist of the following:

	September 30, 2016	December 31, 2015
Components and raw materials	\$ 99,251	\$ 70,394
Work-in-process	29,316	43,259
Finished components and devices	113,803	90,085
Total	\$ 242,370	\$ 203,738

The Company recorded inventory provisions totaling \$6,518 and \$4,336 for the three months ended September 30, 2016 and 2015, respectively, and \$16,243 and \$11,347 for the nine months ended September 30, 2016 and 2015, respectively. These provisions relate to the recoverability of the value of inventories due to technological changes and excess quantities. These provisions are reported as a reduction to components and raw materials and finished components and devices.

4. ACCRUED EXPENSES AND OTHER LIABILITIES

Accrued expenses and other liabilities consist of the following:

	September 30, 2016	December 31, 2015
Accrued compensation	\$ 39,164	\$ 33,617
Customer deposits and deferred revenue	32,725	21,525
Current portion of accrued warranty	14,686	14,871
Other	9,801	5,654
Total	\$ 96,376	\$ 75,667

5. FINANCING ARRANGEMENTS

The Company's borrowings under existing financing arrangements consist of the following:

	September 30, 2016	December 31, 2015
Revolving line-of-credit facilities:		
European overdraft facilities	\$ —	\$ —
Euro line-of-credit	—	—
U.S. line-of-credit	—	—
Total	\$ —	\$ —
Term debt:		
Long-term notes	\$ 41,620	\$ 19,667
Less: current portion	(3,188)	(2,000)
Total long-term debt	\$ 38,432	\$ 17,667

The U.S. and Euro lines-of-credit are available to certain foreign subsidiaries and allow for borrowings in the local currencies of those subsidiaries. At September 30, 2016 and December 31, 2015, there were no amounts drawn on the U.S. line-of-credit, and there were \$225 and \$2,828, respectively, of guarantees issued against the facility which reduces the amount of the facility available to draw. At September 30, 2016 and December 31, 2015, there were no amounts drawn on the Euro line-of-credit, and there were \$7,985 and \$8,221, respectively, of guarantees issued against the facility which reduces the amount of the facility available to draw.

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IPG PHOTONICS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

(In thousands, except share and per share data)

At September 30, 2016, the amount due on the two long-term notes was \$41,620 of which \$3,188 is the current portion. The company has an unsecured note of \$23,453 of which \$1,188 is the current portion. The interest on this unsecured note is variable at 1.20% above the LIBOR rate and is fixed using an interest rate swap at 2.85% per annum. The unsecured note matures in May 2023, at which time the outstanding debt balance will be \$15,438. The Company has another note that is secured by the Company's corporate aircraft of \$18,167 of which \$2,000 is the current portion. The interest rate on this secured note is fixed at 2.81% per annum and the collateralized long-term note matures in October 2019, at which time the outstanding debt balance will be \$12,000.

6. NET INCOME ATTRIBUTABLE TO IPG PHOTONICS CORPORATION PER SHARE

The following table sets forth the computation of diluted net income attributable to IPG Photonics Corporation per share:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Net income attributable to IPG Photonics Corporation	\$ 69,235	\$ 62,791	\$ 185,620	\$ 181,450
Weighted average shares	53,071	52,675	53,039	52,628
Dilutive effect of common stock equivalents	690	717	713	762
Diluted weighted average common shares	53,761	53,392	53,752	53,390
Basic net income attributable to IPG Photonics Corporation per share	\$ 1.30	\$ 1.19	\$ 3.50	\$ 3.45
Diluted net income attributable to IPG Photonics Corporation per share	\$ 1.29	\$ 1.18	\$ 3.45	\$ 3.40

For the three months ended September 30, 2016 and 2015, respectively, the computation of diluted weighted average common shares excludes common stock equivalents of 52,100 shares and 9,000 shares which includes restricted stock units ("RSUs") of 2,500 and 1,600 and performance stock units ("PSUs") of 0 and 4,300, respectively. For the nine months ended September 30, 2016 and 2015, respectively, the computation of diluted weighted average common shares excludes common stock equivalents of 80,600 and 40,600 shares which includes RSUs of 20,900 and 24,200 and PSUs of 3,300 and 9,400, respectively. These common stock equivalents are excluded because the effect of including them would be anti-dilutive.

On July 28, 2016, the Company announced that its Board of Directors authorized a share repurchase program (the "Program") to mitigate the dilutive impact of shares issued upon exercise or release under the Company's various employee and director equity compensation and employee stock purchase plans. Under the Program, the Company's management is authorized to repurchase shares of common stock in an amount not to exceed the number of shares issued to employees and directors under its various employee and director equity compensation and employee stock purchase plans from January 1, 2016 through December 31, 2017. The Program limits aggregate share repurchases to no more than \$100,000 over a period ending June 30, 2018.

For the three months ended September 30, 2016 and nine months ended September 30, 2016, the Company repurchased 41,800 shares of its common stock with an average price of \$83.33 per share in the open market. The impact on the reduction of weighted average shares for the three months ended September 30, 2016 and nine months ended September 30, 2016 was 6,090 shares and 2,044 shares, respectively. There were no previous Program repurchases made by the Company prior to these periods.

7. DERIVATIVE FINANCIAL INSTRUMENTS

Derivative instruments – The Company's primary market exposures are to interest rates and foreign exchange rates. The Company uses certain derivative financial instruments to help manage these exposures. The Company executes these instruments with financial institutions it judges to be credit-worthy. The Company does not hold or issue derivative financial instruments for trading or speculative purposes.

The Company recognizes all derivative financial instruments as either assets or liabilities at fair value in the consolidated balance sheets. The Company has no derivatives that are not accounted for as a hedging instrument.

Cash flow hedges – The Company entered into a cash flow hedge which is an interest rate swap associated with a new long-term note issued during the second quarter of 2016 that will terminate with long-term note in May 2023. The Company previously had a cash flow hedge which was an interest rate swap associated with a U.S. long-term note which matured in June 2015. The fair value amounts in the consolidated balance sheet related to the interest rate swaps were:

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IPG PHOTONICS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

(In thousands, except share and per share data)

Notional Amounts ¹		Other Assets		Other Long-Term Liabilities	
September 30, 2016	December 31, 2015	September 30, 2016	December 31, 2015	September 30, 2016	December 31, 2015
\$23,453	\$	—	\$ 164	\$	—

(1) Notional amounts represent the gross contract/notional amount of the derivatives outstanding.

The derivative gains and losses in the consolidated statements of income related to the Company's interest rate swap contracts was as follows:

	Three Months Ended September 30, 2016		Nine Months Ended September 30, 2015	
Effective portion recognized in other comprehensive loss, pretax:				
Interest rate swap	\$ (67)	\$	—\$172	\$304
Effective portion reclassified from other comprehensive loss to interest expense, pretax:				
Interest rate swap	\$ (8)	\$	—\$(8)	\$(153)
Ineffective portion recognized in income:				
Interest rate swap	\$ —	\$	—\$—	\$—

8. FAIR VALUE MEASUREMENTS

The Company's financial instruments consist of cash equivalents, short-term investments, accounts receivable, auction rate securities, accounts payable, drawings on revolving lines of credit, long-term debt, contingent purchase consideration and interest rate swaps.

The valuation techniques used to measure fair value are based upon observable and unobservable inputs. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect internal market assumptions. These two types of inputs create the following fair value hierarchy: Level 1, defined as observable inputs such as quoted prices for identical instruments in active markets; Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable; and Level 3, defined as unobservable inputs for which little or no market data exists, therefore requiring an entity to develop its own assumptions.

The carrying amounts of cash equivalents, short-term investments, accounts receivable, accounts payable, drawings on revolving lines of credit, the long-term notes and interest rate swaps are considered reasonable estimates of their fair market value, due to the short maturity of most of these instruments or as a result of the competitive market interest rates, which have been negotiated.

The following table presents information about the Company's assets and liabilities measured at fair value:

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IPG PHOTONICS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

(In thousands, except share and per share data)

	Total	Fair Value Measurements at September 30, 2016		
		Level 1	Level 2	Level 3
Assets				
Cash equivalents	\$367,005	\$367,005	\$—	\$—
Short-term investments	126,860	126,860	—	—
Interest rate swap	164	—	164	—
Auction rate securities	1,142	—	—	1,142
Total assets	\$495,171	\$493,865	\$164	\$1,142
Liabilities				
Long-term notes	\$41,620	\$—	\$41,620	\$—
Contingent purchase consideration 21	21	—	—	21
Total liabilities	\$41,641	\$—	\$41,620	\$21

	Total	Fair Value Measurements at December 31, 2015		
		Level 1	Level 2	Level 3
Assets				
Cash equivalents	\$214,232	\$214,232	\$—	\$—
Short-term investments	106,375	106,375	—	—
Auction rate securities	1,136	—	—	1,136
Total assets	\$321,743	\$320,607	\$—	\$1,136
Liabilities				
Long-term notes	\$19,667	\$19,667	\$—	\$—
Contingent purchase consideration 20	20	—	—	20
Total liabilities	\$19,687	\$19,667	\$—	\$20

Short-term investments are recorded at book value. Unrealized gains or losses are not recorded since these investments are considered held-to-maturity and consist of liquid investments including U.S. government and government agency notes, corporate notes, commercial paper and certificates of deposit with original maturities of greater than three months but less than one year. The fair value of these investments as of September 30, 2016 and December 31, 2015 was \$126,860 and \$106,375, respectively, which represents an unrealized loss of \$110 and \$209, respectively, as compared to the book value recorded on the Consolidated Balance Sheets for the same periods. The fair value of the auction rate securities considered prices observed in inactive secondary markets for the securities held by the Company.

The fair value of accrued contingent purchase consideration incurred was determined using an income approach at the acquisition date and reporting date. That approach is based on significant inputs that are not observable in the market. Key assumptions include assessing the probability of meeting certain milestones required to earn the contingent purchase consideration.

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IPG PHOTONICS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

(In thousands, except share and per share data)

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2016	2015	2016	2015
Auction Rate Securities				
Balance, beginning of period	\$1,140	\$1,132	\$1,136	\$1,128
Change in fair value and accretion	2	2	6	6
Balance, end of period	\$1,142	\$1,134	\$1,142	\$1,134
Contingent Purchase Consideration				
Balance, beginning of period	\$20	\$80	\$20	\$98
Period transactions	—	(7)	—	(7)
Change in fair value and currency fluctuations	1	(4)	1	(22)
Balance, end of period	\$21	\$69	\$21	\$69

9. GOODWILL AND INTANGIBLES

The following table sets forth the changes in the carrying amount of goodwill for the nine months ended September 30, 2016:

	Amounts
Balance at January 1	\$505
Foreign exchange adjustment	(1)
Total goodwill arising from acquisition	19,638
Balance at September 30	\$20,142

Intangible assets, subject to amortization, consisted of the following:

	September 30, 2016				December 31, 2015			
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Weighted-Average Lives	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Weighted-Average Lives
Patents	\$6,641	\$(4,838)	\$1,803	6 Years	\$6,641	\$(4,573)	\$2,068	6 Years
Customer relationships	12,798	(3,548)	9,250	5 Years	3,325	(3,092)	233	5 Years
Production know-how	6,714	(3,959)	2,755	8 Years	6,672	(3,339)	3,333	8 Years
Technology, trademark and tradename	18,002	(3,438)	14,564	8 Years	8,247	(1,977)	6,270	8 Years
	\$44,155	\$(15,783)	\$28,372		\$24,885	\$(12,981)	\$11,904	

During the second quarter of 2016, the Company acquired Menara Networks, Inc. ("Menara"). Menara is located in Dallas, Texas. The Company paid \$46,831 which represents the fair value of Menara on that date. As a result of the acquisition, the Company recorded intangible assets of \$19,300 related to technology, tradename and customer relationships. Additionally, the Company recorded \$19,638 of goodwill related to anticipated expansion of the Company's product offerings within the telecom market. The goodwill arising from this acquisition will not be deductible for tax purposes.

The purchase price allocations included in the Company's financial statements are not complete. They represent the preliminary fair value estimates as of September 30, 2016 and are subject to subsequent adjustment as the Company obtains additional information during the measurement period and finalizes its fair value estimates. Any subsequent adjustments to

these fair value estimates occurring during the measurement period will result in an adjustment to goodwill or income, as applicable.

Amortization expense for the three months ended September 30, 2016 and 2015 was \$1,252 and \$585, respectively. Amortization expense for the nine months ended September 30, 2016 and 2015 was \$2,696 and \$1,706, respectively. The estimated future amortization expense for intangibles for the remainder of 2016 and subsequent years is as follows:

2016	2017	2018	2019	2020	Thereafter	Total
\$1,319	\$4,991	\$4,926	\$4,821	\$4,185	\$8,130	\$28,372

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IPG PHOTONICS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - (Continued)

(In thousands, except share and per share data)

10. PRODUCT WARRANTIES

The Company typically provides one to three-year parts and service warranties on lasers and amplifiers. Most of the Company's sales offices provide support to customers in their respective geographic areas. Warranty reserves have generally been sufficient to cover product warranty repair and replacement costs. The following table summarizes product warranty activity recorded during the nine months ended September 30, 2016 and 2015.

	2016	2015
Balance at January 1	\$28,210	\$19,272
Provision for warranty accrual	16,098	16,424
Warranty claims	(12,273)	(8,627)
Foreign currency translation	643	(1,059)
Balance at September 30	\$32,678	\$26,010

Accrued warranty reported in the accompanying consolidated financial statements as of September 30, 2016 and December 31, 2015 consisted of \$14,686 and \$14,871 in accrued expenses and other liabilities and \$17,992 and \$13,339 in other long-term liabilities, respectively.

11. INCOME TAXES

A reconciliation of the total amounts of unrecognized tax benefits is as follows:

	2016	2015
Balance at January 1	\$7,579	\$6,494
Reductions of prior period positions	—	—
Additions for tax positions in prior period	—	—
(Reductions) additions for tax positions in current period	(1,876)	—
Balance at September 30	\$5,703	\$6,494

Substantially all of the liability for uncertain tax benefits related to various federal, state and foreign income tax matters, would benefit the Company's effective tax rate, if recognized.

12. COMMITMENTS AND CONTINGENCIES

From time to time, the Company may be involved in disputes and legal proceedings in the ordinary course of its business.

These proceedings may include allegations of infringement of intellectual property, commercial disputes and employment

matters. As of September 30, 2016 and through the filing date of these Financial Statements, the Company has no legal proceedings ongoing that management estimates could have a material effect on the Company's Consolidated Financial Statements.

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

You should read the following discussion in conjunction with our consolidated financial statements and related notes included elsewhere in this Quarterly Report on Form 10-Q. This discussion contains forward looking statements that are based on management's current expectations, estimates and projections about our business and operations. Our actual results may differ materially from those currently anticipated and expressed in such forward-looking statements. See "Cautionary Statement Regarding Forward-Looking Statements."

Overview

We develop and manufacture a broad line of high-performance fiber lasers, fiber amplifiers and diode lasers that are used in numerous applications, primarily in materials processing. We sell our products globally to original equipment manufacturers ("OEMs"), system integrators and end users. We market our products internationally primarily through our direct sales force.

We are vertically integrated such that we design and manufacture most of our key components used in our finished products, from semiconductor diodes to optical fiber preforms, finished fiber lasers and amplifiers. We also manufacture certain complementary products used with our lasers, including optical delivery cables, fiber couplers, beam switches, optical processing heads and chillers. In addition, we offer laser-based systems for certain markets and applications.

Factors and Trends That Affect Our Operations and Financial Results

In reading our financial statements, you should be aware of the following factors and trends that our management believes are important in understanding our financial performance.

Net sales. We derive net sales primarily from the sale of fiber lasers and amplifiers. We also sell diode lasers, communications systems, laser systems and complementary products. We sell our products through our direct sales organization and our network of distributors and sales representatives, as well as system integrators. We sell our products to OEMs that supply materials processing laser systems, communications systems, medical laser systems and other laser systems for advanced applications to end users. We also sell our products to end users that build their own systems which incorporate our products or use our products as an energy or light source. Our scientists and engineers work closely with OEMs, systems integrators and end users to analyze their system requirements and match appropriate fiber laser or amplifier specifications. Our sales cycle varies substantially, ranging from a period of a few weeks to as long as one year or more, but is typically several months.

Sales of our products generally are recognized upon shipment, provided that no obligations remain and collection of the receivable is reasonably assured. Our sales typically are made on a purchase order basis rather than through long-term purchase commitments.

We develop our products to standard specifications and use a common set of components within our product architectures. Our major products are based upon a common technology platform. We continually enhance these and other products by improving their components and developing new components and new product designs.

The average selling prices of our products generally decrease as the products mature. These decreases result from factors such as decreased manufacturing costs and increases in unit volumes, increased competition, the introduction of new products and market share considerations. In the past, we have lowered our selling prices in order to penetrate new markets and applications. Furthermore, we may negotiate discounted selling prices from time to time with certain customers that purchase multiple units.

Gross margin. Our total gross margin in any period can be significantly affected by total net sales in any period, by product mix, that is, the percentage of our revenue in the period that is attributable to higher or lower-power products and the mix of sales between laser and amplifier sources and complete systems, by sales mix between OEM customers who purchase devices from us in high unit volumes and other customers, by mix of sales in different geographies and by other factors, some of which are not under our control.

Our product mix affects our margins because the selling price per watt is generally higher for mid-power devices and certain specialty products than for high-power devices and certain pulsed lasers sold in large volumes. The overall cost of high-power lasers may be partially offset by improved absorption of fixed overhead costs associated with sales of larger volumes of higher-power products because they use a greater number of optical components and drive

economies of scale in manufacturing. Also, the profit margins on systems can be lower than margins for our laser and amplifier sources, depending on the configuration, volume and competitive forces, among other factors.

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The mix of sales between OEM customers and other customers can affect gross margin because we provide sales price discounts on products based on the number of units ordered. As the number of OEM customers increases and the number of units ordered increases, the average sales price per unit will be reduced. We expect that the impact of reduced sales price per unit will be offset by the manufacturing efficiency provided by high unit volume orders, but the timing and extent of achieving these efficiencies may not always match the mix of sales in any given time period or be realized at all.

We also regularly review our inventory for items that are slow-moving, have been rendered obsolete or determined to be excess. Any write-off of such slow-moving, obsolete or excess inventory affects our gross margins. For example, we recorded provisions for inventory totaling \$6.5 million and \$4.3 million for the three months ended September 30, 2016 and 2015, respectively, and \$15.4 million, \$11.3 million and \$15.1 million for the years ended December 31, 2015, 2014 and 2013, respectively.

Sales and marketing expense. We expect to continue to expand our worldwide direct sales organization, build and expand applications centers, hire additional sales and marketing personnel at our existing and new geographic locations as well as to support sales of new product lines, increase the number of units for demonstration purposes and otherwise increase expenditures on sales and marketing activities in order to support the growth in our net sales. As such, we expect that our sales and marketing expenses will increase in the aggregate.

Research and development expense. We plan to continue to invest in research and development to improve our existing components and products and develop new components, products, systems and applications technology. The amount of research and development expense we incur may vary from period to period. In general, if net sales continue to increase we expect research and development expense to increase in the aggregate.

General and administrative expense. We expect our general and administrative expenses to increase as we continue to invest in systems and resources in management, finance, legal, information technology, human resources and administration to support our worldwide operations. Legal expenses vary from quarter to quarter based primarily upon the level of litigation and transaction activities.

Foreign Exchange. Because we are a U.S. based company doing business globally, we have both translational and transactional exposure to fluctuations in foreign currency exchange rates. Changes in the relative exchange rate between the U.S. dollar and the foreign currencies in which our subsidiaries operate directly affects our sales, costs and earnings. Differences in the relative exchange rates between where we sell our products and where we incur manufacturing and other operating costs (primarily in the U.S., Germany and Russia) also affects our costs, and earnings. Certain currencies experiencing significant exchange rate fluctuations like the Euro, the Russian Ruble, the Japanese Yen and Chinese Yuan have had and could have an additional significant impact on our sales, costs and earnings. Our ability to adjust the foreign currency selling prices of products in response to changes in exchange rates is limited and may not offset the impact of the changes in exchange rates on the translated value of sales or costs. In addition, if we increase the selling price of our products in local currencies this could have a negative impact on the demand for our products.

Major customers. While we have historically depended on a few customers for a large percentage of our annual net sales, the composition of this group can change from year to year. Net sales derived from our five largest customers as a percentage of our net sales was 21% for the nine months ended September 30, 2016 and 25%, 23% and 21% for the full years 2015, 2014 and 2013, respectively. None of our customers accounted for more than 10% of our net sales for the nine months ended September 30, 2016. Our largest customer accounted for 13% of our net sales for the nine months ended September 30, 2015. We seek to add new customers and to expand our relationships with existing customers. We anticipate that the composition of our significant customers will continue to change. If any of our significant customers substantially reduced their purchases from us, our results would be adversely affected.

Results of Operations for the three months ended September 30, 2016 compared to the three months ended September 30, 2015

Net sales. Net sales increased by \$22.5 million, or 9.2%, to \$266.0 million for the three months ended September 30, 2016 from \$243.5 million for the three months ended September 30, 2015.

Three Months Ended September 30,		
2016	2015	Change

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	% of Total			% of Total			% of Total		
Materials processing	\$246,299	92.6	%	\$223,813	91.9	%	\$22,486	10.0	%
Other applications	19,718	7.4	%	19,728	8.1	%	(10)	(0.1)	%
Total	\$266,017	100.0	%	\$243,541	100.0	%	\$22,476	9.2	%

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	Three Months Ended September 30,						Change	
	2016		2015					
		% of Total		% of Total				
High-Power Continuous Wave ("CW") Lasers	\$153,002	57.5 %	\$130,917	53.8 %	\$22,085	16.9 %		
Medium-Power CW Lasers	25,011	9.4 %	26,951	11.1 %	(1,940)	(7.2)%		
Low-Power CW Lasers	2,992	1.1 %	2,960	1.2 %	32	1.1 %		
Pulsed Lasers	34,429	12.9 %	35,036	14.4 %	(607)	(1.7)%		
Quasi-Continuous Wave ("QCW") Lasers	11,660	4.4 %	19,849	8.2 %	(8,189)	(41.3)%		
Other Revenue including Amplifiers, Laser Systems, Service, Parts, Accessories and Change in Deferred Revenue	38,923	14.6 %	27,828	11.4 %	11,095	39.9 %		
Total	\$266,017	100.0 %	\$243,541	100.0 %	\$22,476	9.2 %		

Sales for materials processing applications increased due to higher sales of high-power lasers and low-power lasers. High-power laser sales increased due to higher demand for cutting, welding and additive manufacturing applications. High-power lasers are continuing to displace CO₂ lasers in cutting systems sold by our OEM customers. In addition, OEM's for additive manufacturing equipment are increasing the use of high power lasers instead of medium power lasers. Our additive manufacturing OEM customers are producing systems using lasers with higher output powers in order to improve the speed with which parts are grown.

Medium-power sales decreased due to a decrease in demand for fine cutting and lasers used in sintering/additive manufacturing partially offset by a higher demand for welding applications. The decline in medium-power lasers used for additive manufacturing is due to timing of orders as well as increased use of high-power lasers for this application.

Low-power laser sales increased due to higher sales for medical applications.

Pulsed laser sales decreased due to lower sales of low-power pulsed lasers partially offset by an increase in high-power pulsed lasers sales and an increase in green pulsed lasers sales. High-power pulsed sales are driven by ablation and cleaning applications as well as marking and engraving applications. The increase in green pulsed lasers is driven by edge deletion in solar cell manufacturing.

QCW laser sales decreased due to lower demand from consumer electronics applications.

Other revenue increased due to higher telecom sales, an increase in parts and service revenue and lower deferred revenue.

Sales for other applications decreased slightly due to lower sales for advanced applications offset by greater telecom applications sales. The increase in telecom sales was driven by sales from Menara Networks, Inc ("Menara") which we acquired in the second quarter of 2016.

Cost of sales and gross margin. Cost of sales increased by \$11.0 million, or 10.0%, to \$121.2 million for the three months ended September 30, 2016 from \$110.2 million for the three months ended September 30, 2015. Our gross margin decreased slightly to 54.4% for the three months ended September 30, 2016 from 54.7% for the three months ended September 30, 2015. Gross margin decreased due to lower average selling prices, a decrease in absorption of manufacturing costs in the quarter, an increase in the provision for inventory reserves and also due to an increase in expenses related to the amortization of intangibles and the step-up to fair value of inventory acquired in the Menara transaction. These impacts were partially offset by a reduction in the cost of internally manufactured components, increased manufacturing efficiency and product mix which included increased sales of high-power and pulsed lasers with higher average power.

Sales and marketing expense. Sales and marketing expense increased by \$2.8 million, or 35.5%, to \$10.5 million for the three months ended September 30, 2016 from \$7.7 million for the three months ended September 30, 2015, primarily as a result of an increase in expenses related to personnel, commissions, trade fairs and exhibitions, depreciation and premises. As a

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percentage of sales, sales and marketing expense increased to 3.9% for the three months ended September 30, 2016 from 3.2% for three months ended September 30, 2015.

Research and development expense. Research and development expense increased by \$4.3 million, or 26.6%, to \$20.5 million for the three months ended September 30, 2016, compared to \$16.2 million for the three months ended September 30, 2015, primarily as a result of an increase in expenses related to personnel, stock-based compensation, materials used for research and development projects and depreciation which were partially offset by a decrease in expenses related to outside contractors. Research and development continues to focus on developing new products, enhancing performance of existing components, improving production processes and developing manufacturing of new components. New products include lasers that operate at different wavelengths such as ultra-violet, visible and mid-infrared, lasers with ultra-fast pulses, laser based systems for material processing, projection, display and medical as well as accessories such as welding and cutting heads. We enhance the performance of existing products and components by increasing electrical efficiency and output power. We improve manufacturing processes by increasing yields and productivity. In addition we are developing manufacturing capability for new components such as crystals to support both current and new products. As a percentage of sales, research and development expense increased to 7.7% for the three months ended September 30, 2016 from 6.7% for the three months ended September 30, 2015.

General and administrative expense. General and administrative expense increased by \$2.1 million, or 14.4%, to \$16.8 million for the three months ended September 30, 2016 from \$14.7 million for the three months ended September 30, 2015. This was primarily as a result of increased personnel expense, stock-based compensation, accounting, legal and information technology costs partially offset by decreases in premises expense. As a percentage of sales, general and administrative expense was 6.3% for the three months ended September 30, 2016 and 6.0% for the three months ended September 30, 2015.

Effect of exchange rates on net sales, gross profit and operating expenses. We estimate that, if exchange rates relative to the U.S. Dollar had been the same as one year ago, which were on average Euro 0.90, Russian Ruble 63, Japanese Yen 122 and Chinese Yuan 6.28, respectively, we would have expected net sales to be \$2.0 million higher, gross profit to be \$1.1 million higher and total operating expenses would have been \$0.1 million higher.

Loss (gain) on foreign exchange. We incurred a foreign exchange loss of \$2.9 million for the three months ended September 30, 2016 as compared to a \$5.1 million loss for the three months ended September 30, 2015. Foreign exchange losses for the three months ended September 30, 2016 were primarily attributable to the appreciation of the Euro and Russian Ruble as compared to the U.S. Dollar and the depreciation of the Chinese Yuan as compared to the U.S. Dollar. Foreign exchange losses for the three months ended September 30, 2015 were primarily attributable to the depreciation of the Chinese Yuan compared to the U.S. dollar which was partially offset by the depreciation of the Russian Ruble compared to the U.S. dollar and appreciation of the Japanese Yen compared to the Euro.

Interest income (expense), net. Interest income (expense), increased to \$0.4 million of income for the three months ended September 30, 2016 from \$0.0 million of expense for the three months ended September 30, 2015 as a result of higher yielding interest on investments.

Other income, net. Other income, remained relatively flat for the three months ended September 30, 2016 and 2015.

Provision for income taxes. Provision for income taxes was \$25.4 million for the three months ended September 30, 2016 compared to \$26.9 million for the three months ended September 30, 2015. The effective tax rates were 26.9% and 30.0% for the three months ended September 30, 2016 and 2015, respectively. The decrease in the effective rate was primarily due to the release of income tax reserves upon the completion of a tax audit as well as an increase in the benefit related to research and development tax credits. The legislation enabling research and development credits in the United States was permanently re-enacted at the end of 2015. As it was not permanently re-enacted until the end of the year, there was no benefit related to research and development credits for the three months ended September 30, 2015.

Net income attributable to IPG Photonics Corporation. Net income attributable to IPG Photonics Corporation increased by \$6.4 million to \$69.2 million for the three months ended September 30, 2016 compared to \$62.8 million for the three months ended September 30, 2015. Net income attributable to IPG Photonics Corporation as a percentage of our net sales increased by 0.2 percentage points to 26.0% for the three months ended September 30, 2016 from 25.8% for the three months ended September 30, 2015 due to the factors described above.

Results of Operations for the nine months ended September 30, 2016 compared to the nine months ended September 30, 2015

Net sales. Net sales increased by \$48.4 million, or 7.1%, to \$726.1 million for the nine months ended September 30, 2016 from \$677.6 million for the nine months ended September 30, 2015.

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	Nine Months Ended September 30,						Change
	2016		2015				
		% of Total		% of Total			
Materials processing	\$683,562	94.1 %	\$640,302	94.5 %	\$43,260	6.8 %	
Other applications	42,490	5.9 %	37,337	5.5 %	5,153	13.8%	
Total	\$726,052	100.0 %	\$677,639	100.0 %	\$48,413	7.1 %	
	Nine Months Ended September 30,						Change
	2016		2015				
		% of Total		% of Total			
High-Power CW Lasers			\$412,628	56.8 %	\$377,058	55.6 %	\$35,570 9.4 %
Medium-Power CW Lasers			74,739	10.3 %	75,467	11.1 %	(728) (1.0)%
Low-Power CW Lasers			9,053	1.2 %	10,190	1.5 %	(1,137) (11.2)%
Pulsed Lasers			99,687	13.7 %	97,017	14.3 %	2,670 2.8 %
QCW Lasers			36,484	5.0 %	45,592	6.7 %	(9,108) (20.0)%
Other Revenue including Amplifiers, Laser Systems, Service, Parts, Accessories and Change in Deferred Revenue			93,461	12.9 %	72,315	10.7 %	21,146 29.2 %
Total			\$726,052	100.0 %	\$677,639	100.0 %	\$48,413 7.1 %

Sales for materials processing applications increased due to higher sales of high-power lasers, pulsed lasers and laser systems.

High-power laser sales increased due to higher demand for cutting, cladding, laser sintering and heating and annealing applications partially offset by a decline in automotive related welding applications and decreases in average selling prices. High-power lasers are continuing to displace CO2 lasers in cutting systems sold by our OEM customers. We are also seeing increased use of high-power lasers for deposition applications like cladding and laser sintering which is used in additive manufacturing. Our additive manufacturing OEM customers are producing systems using lasers with higher output powers in order to improve the speed with which parts are grown. The increase in heat treatment and annealing applications was due to a large order from one customer.

Medium-power sales decreased due to a decrease in demand for fine cutting and lasers used in sintering/additive manufacturing partially offset by a higher demand for welding applications. As discussed above, our additive manufacturing OEM customers are increasingly using high-power lasers instead of medium-power lasers in their systems.

- Low-power laser sales decreased due to lower sales for medical applications.

Pulsed laser sales increased due to higher demand for marking and engraving applications. Marking and engraving applications are increasing due to increased demand in consumer electronics and packaging and due to increased performance offered by our high-power pulsed products.

QCW laser sales decreased due to lower demand from consumer electronics applications.

The increase in laser system sales contributed to the increase in other revenue detailed above. Increased sales in laser systems are due to increased demand for customized laser system solutions as a result of the investments we have made to develop laser systems for various applications and in the sales and distribution network to support this product line.

Sales for other applications increased due to higher sales for advanced applications and telecom applications. The increase in sales for advanced applications was driven by government and aerospace applications and contributed to increased high-power laser sales and sales of certain components included in other revenue detailed above. The increase in telecom sales was driven by sales from Menara, which we acquired in the second quarter of 2016, and an increase in amplifier sales used for last mile fiber access to the home applications. These sales increases were partially offset by a decrease in medical application sales.

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Cost of sales and gross margin. Cost of sales increased by \$21.3 million, or 6.9%, to \$329.1 million for the nine months ended September 30, 2016 from \$307.8 million for the nine months ended September 30, 2015. Our gross margin increased slightly to 54.7% from 54.6% for the nine months ended September 30, 2016 and 2015, respectively. Gross margin increased due to decreases in the cost of internally manufactured components and increased manufacturing efficiency which have offset decreases in average selling prices. Gross margin also benefited from product mix including increased sales of high-power and pulsed lasers with higher output power. These benefits were partially offset by a decrease in absorption of manufacturing costs, increased provision for inventory reserves and also due to an increase in expenses related to the amortization of intangibles and the step-up to fair value of inventory acquired in the Menara transaction..

Sales and marketing expense. Sales and marketing expense increased by \$5.0 million, or 21.3%, to \$28.2 million for the nine months ended September 30, 2016 from \$23.2 million for the nine months ended September 30, 2015, primarily as a result of increased expenses for personnel, commissions, trade show and exhibitions and premises. As a percentage of sales, sales and marketing expense increased to 3.9% for the nine months ended September 30, 2016 from 3.4% for the nine months ended September 30, 2015.

Research and development expense. Research and development expense increased by \$10.8 million, or 23.9%, to \$56.4 million for the nine months ended September 30, 2016, compared to \$45.6 million for the nine months ended September 30, 2015, primarily as a result of an increase in personnel expense, stock-based compensation, premises, travel, depreciation and materials used for research and development. These increases were partially offset by decreased expenses related to outside research and development contracts. Research and development continues to focus on developing new products, enhancing performance of existing components, improving production processes and developing manufacturing of new components. New products include lasers that operate at different wavelengths such as ultra-violet, visible and mid-infrared, lasers with ultra-fast pulses, , laser based systems for material processing, projection, display and medical as well as accessories such as welding and cutting heads. In addition to new products research and development is focused on enhancing the performance of our existing products by improving their electrical efficiency and increasing their average power. Other research and development activities include enhancing and reducing the cost of our internally manufactured components, developing new components such as crystals and refining production processes to improve manufacturing yields and productivity. As a percentage of sales, research and development expense increased to 7.8% for the nine months ended September 30, 2016 from 6.7% for the nine months ended September 30, 2015.

General and administrative expense. General and administrative expense increased by \$4.3 million, or 10.3%, to \$46.8 million for the nine months ended September 30, 2016 from \$42.5 million for the nine months ended September 30, 2015, primarily as a result of increased expenses for personnel, stock-based compensation, fees and subscriptions, information technology , insurance, travel, legal and consulting, partially offset by lower bad debt provisions and lower expenses for premises and depreciation. As a percentage of sales, general and administrative expense increased to 6.5% for the nine months ended September 30, 2016 from 6.3% for the nine months ended September 30, 2015.

Effect of exchange rates on net sales, gross profit and operating expenses. We estimate that, if exchange rates relative to the U.S. Dollar had been the same as one year ago, which were on average Euro 0.90, Russian Ruble 60, Japanese Yen 121 and Chinese Yuan 6.19, respectively, we would have expected net sales for the nine months ended September 30, 2016 to be \$10.6 million higher, gross profit to be \$5.0 million higher and total operating expenses would have been \$2.2 million higher.

Loss (gain) on foreign exchange. We incurred a foreign exchange loss of \$6.3 million for the nine months ended September 30, 2016 as compared to a \$0.5 million gain for the nine months ended September 30, 2015. The loss for the nine months ended September 30, 2016 was primarily attributable to appreciation of the Russian Ruble as compared to the U.S. Dollar and depreciation of the Chinese Yuan as compared to the U.S. Dollar. The gain for the nine months ended September 30, 2015 was primarily attributable to depreciation of the Euro and Russian Ruble as compared to the U.S. Dollar which was partially offset by the depreciation of the Chinese Yuan as compared to the U.S. Dollar.

Interest income (expense), net. Interest income (expense), increased to \$0.8 million of income for the nine months ended September 30, 2016 from \$0.3 million of expense for the nine months ended September 30, 2015 as a result of

higher yielding interest on investments.

Other income, net. Other income, net decreased to \$0.3 million of income for the nine months ended September 30, 2016 compared to approximately \$0.4 million of income for the nine months ended September 30, 2015.

Provision for income taxes. Provision for income taxes was \$74.7 million for the nine months ended September 30, 2016 compared to \$77.7 million for the nine months ended September 30, 2015, representing an effective tax rate of 28.7% and 30.0% for the nine months ended September 30, 2016 and 2015, respectively. The decrease in the effective rate was primarily due to the the release of income tax reserves upon the completion of a tax audit, the mix of income earned in various tax jurisdictions, and an increase in the benefit related to research and development tax credits. The legislation enabling research

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and development credits in the United States was permanently enacted at the end of 2015. As it was not permanently re-enacted until the end of the year, there was no benefit related to research and development credits for the nine months ended September 30, 2015.

Net income attributable to IPG Photonics Corporation. Net income attributable to IPG Photonics Corporation increased by \$4.2 million to \$185.6 million, or 2.3% for the nine months ended September 30, 2016 compared to \$181.5 million for the nine months ended September 30, 2015. Net income attributable to IPG Photonics Corporation as a percentage of our net sales decreased by 1.2 percentage points to 25.6% for the nine months ended September 30, 2016 from 26.8% for the nine months ended September 30, 2015 due to the factors described above.

Liquidity and Capital Resources

Our principal sources of liquidity as of September 30, 2016 consisted of cash and cash equivalents of \$645.6 million, short-term investments of \$127.0 million, unused credit lines and overdraft facilities of \$77.7 million and other working capital (excluding cash and cash equivalents and short-term investments) of \$348.3 million. This compares to cash and cash equivalents of \$582.5 million, short-term investments of \$106.6 million, unused credit lines and overdraft facilities of \$73.9 million and other working capital (excluding cash and cash equivalents and short-term investments) of \$288.8 million as of December 31, 2015. The increase in cash and cash equivalents of \$63.0 million relates primarily to cash provided by operating activities in the nine months ended September 30, 2016 of \$193.0 million, cash provided by financing activities of \$29.6 million and effect of exchange rates on cash of \$7.4 million which was partially offset by cash used in investing activities of \$166.9 million which was primarily related to capital expenditures, the acquisition of Menara Networks and an increase in short-term investments.

Short-term investments consist of liquid investments including U.S. government and government agency notes, corporate

notes, commercial paper and certificates of deposit with original maturities of greater than three months but less than one year.

Our long-term debt consists of two long-term notes totaling \$41.6 million of which \$3.2 million is the current portion. We have an unsecured note with an outstanding balance at September 30, 2016 of \$23.5 million of which \$1.2 million is the current portion. The interest on this unsecured note is variable at 1.20% above the LIBOR rate and is fixed using an interest rate swap at 2.85% per annum. The unsecured note matures in May 2023, at which time the outstanding debt balance will be \$15.4 million. The Company has another note that is secured by the Company's corporate aircraft. The outstanding balance on this secured note at September 30, 2016 was \$18.2 million of which \$2.0 million is the current portion. The interest rate on this secured note is fixed at 2.81% per annum and it matures in October 2019, at which time the outstanding debt balance will be \$12.0 million.

We believe that our existing cash and marketable securities, our cash flows from operations and our existing lines of credit provides us with the financial flexibility to meet our liquidity and capital needs and to complete potential acquisitions of businesses and technologies. Our future long-term capital requirements will depend on many factors including our level of sales, the impact of economic environment on our sales levels, the timing and extent of spending to support development efforts, the expansion of the global sales and marketing activities, government regulation including trade sanctions, the timing and introductions of new products, the need to ensure access to adequate manufacturing capacity and the continuing market acceptance of our products.

The following table details our line-of-credit facilities as of September 30, 2016:

Description	Total Facility	Interest Rate	Maturity	Security
U.S. Revolving Line of Credit (1)	Up to \$50.0 million	LIBOR plus 0.80% to 1.20%, depending on our performance	April 2020	Unsecured
Euro Credit Facilities (Germany) (2)	Euro 30.0 million (\$33.6 million)	Euribor plus 1.00% or EONIA 1.25%	July 2017	Unsecured, guaranteed by parent company and Germany subsidiary
Euro Overdraft Facilities (3)	Euro 2.0 million (\$2.2 million)	1.0%-6.5%	October 2016	Common pool of assets of Italian subsidiary

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This facility is available to certain foreign subsidiaries in their respective local currencies. At September 30, 2016, (1) there were no drawings however, there were \$0.2 million of guarantees issued against the facility which reduces the amount of the facility available to draw.

This facility is also available to certain foreign subsidiaries in their respective local currencies. At September 30, (2) 2016, there were no drawings however, there were \$8.0 million of guarantees issued against the facility which reduces the amount of the facility available to draw.

(3) At September 30, 2016, there were no drawings.

Our largest committed credit lines are with Bank of America N.A. and Deutsche Bank AG in the amounts of \$50.0 million and \$33.6 million (or 30 million Euro as described above), respectively, and neither of them is syndicated.

We are required to meet certain financial covenants associated with our U.S. revolving line of credit and long-term debt facility. These covenants, tested quarterly, include a debt service coverage ratio and a funded debt to earnings before interest, taxes, depreciation and amortization ("EBITDA") ratio. The debt service coverage covenant requires that we maintain a trailing twelve month ratio of cash flow to debt service that is at least 1.5:1. Debt service is defined as required principal and interest payments during the period. Debt service in the calculation is decreased by our cash held in the U.S.A. in excess of \$50 million up to a maximum of \$250 million. Cash flow is defined as EBITDA less unfunded capital expenditures. The funded debt to EBITDA covenant requires that the sum of all indebtedness for borrowed money on a consolidated basis be less than three times our trailing twelve months EBITDA. We were in compliance with all such financial covenants as of and for the three months ended September 30, 2016.

Operating activities. Net cash provided by operating activities decreased by \$1.6 million to \$193.0 million for the nine months ended September 30, 2016 from \$194.6 million for the nine months ended September 30, 2015. Net cash provided by operating activities is generally driven by cash provided by net income after adding back non-cash charges offset by continued growth in working capital to support the growth of the business. Our largest working capital items are inventory and accounts receivable. Items such as accounts payable to third parties, prepaid expenses and other current assets and accrued expenses and other liabilities are not as significant as our working capital investment in accounts receivable and inventory. The relatively high level of investment in inventory is primarily attributable to the amount of value that is added internally which is primarily due to our vertically integrated manufacturing. Accruals and payables for personnel costs including bonuses and income and other taxes payable are largely dependent on the timing of payments for those items. The decrease in cash flow from operating activities for the nine months ended September 30, 2016 primarily resulted from:

An increase in cash provided by net income after adding back non-cash charges of \$22.2 million to \$267.0 million for the nine months ended September 30, 2016 as compared to \$244.9 million for the same period in 2015 mainly resulting from an increase in depreciation and amortization and stock-based compensation which was partially offset by a decrease in net income and changes in deferred income taxes between the two periods;

An increase in accounts receivable of \$10.9 million for the nine months ended September 30, 2016 as compared to an increase of \$20.0 million for the same period in 2015;

An increase in inventory of \$42.8 million for the nine months ended September 30, 2016 as compared to an increase of \$52.2 million for the same period in 2015;

The benefits to cash flow from operating activities described above were offset by a decrease in income taxes payable of \$7.4 million for the nine months ended September 30, 2016 as compared to an increase in income taxes payable of \$17.5 million for the same period in 2015. The decrease in income taxes payable was primarily attributable to an increase in cash taxes paid in Germany as a result of an increase in estimated tax payments due for the year ended December 31, 2015 and estimated tax payments for the current year. The estimated tax payments were increased after we filed our 2014 German tax return.

Given our vertical integration, rigorous and time-consuming testing procedures for both internally manufactured and externally purchased components and the lead time required to manufacture components used in our finished products, the rate at which we turn inventory has historically been comparatively low when compared to our cost of sales. Also, our historic growth rates required investment in inventories to support future sales and enable us to quote short delivery times to our customers, providing what we believe is a competitive advantage. Furthermore, if there

was a disruption to the manufacturing capacity of any of our key technologies, our inventories of components should enable us to continue to build finished products for a reasonable period of time. We believe that we will continue to maintain a relatively high level of inventory compared to our cost of sales. As a result, we expect to have a significant amount of working capital invested in inventory. A reduction in our level of net sales or the rate of growth of our net sales from their current levels would mean that the rate at which we are able to convert our inventory into cash would decrease.

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Investing activities. Net cash used in investing activities was \$166.9 million and \$55.4 million in the nine months ended September 30, 2016 and 2015, respectively. The cash used in investing activities in 2016 related to \$100.0 million for the construction of new buildings in the United States, Germany and Russia, purchases of machinery and equipment and the purchase of a building in Marlborough, MA. Additionally, cash used for investing activities in the nine months ended September 30, 2016 included \$46.5 million for the purchase of Menara Networks, net of cash acquired and \$20.6 million of net purchases of short-term investments. The cash used in investing activities in 2015 related to \$50.8 million for the construction and purchase of new buildings in the United States, Germany and Russia, purchases of machinery and equipment and \$5.0 million for the the purchase of a majority interest in a company. We expect to incur between \$110 million and \$125 million in capital expenditures, excluding acquisitions, in 2016, as we continue to upgrade facilities and equipment to add capacity worldwide to support anticipated revenue growth. The timing and extent of any capital expenditures in and between periods can have a significant effect on our cash flow. Many of the capital expenditure projects that we undertake have long lead times and are difficult to cancel or defer to a later period.

Financing activities. Net cash provided by financing activities was \$29.6 million and \$1.2 million in the nine months ended September 30, 2016 and 2015, respectively. The cash provided by financing activities in 2016 was primarily related to proceeds of \$23.8 million from financing related to the purchase of a building in Marlborough, MA, as well as cash provided by the exercise of stock options, sales of shares under our employee stock purchase plan and the related tax benefits of the exercises partially offset by the purchase of treasury stock of \$3.5 million and payments on our long-term borrowings and net payments of line-of-credit facilities. The cash provided by financing activities in 2015 was primarily related to the cash provided by the exercise of stock options, sales of shares under our employee stock purchase plan and the related tax benefits of the exercises partially offset by the payments on our long-term borrowings and net payments of line-of-credit facilities.

Cautionary Statement Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, and we intend that such forward-looking statements be subject to the safe harbors created thereby. For this purpose, any statements contained in this Quarterly Report on Form 10-Q except for historical information are forward-looking statements. Without limiting the generality of the foregoing, words such as "may," "will," "expect," "believe," "anticipate," "intend," "could," "estimate," or "continue" or the negative or other variations thereof or comparable terminology are intended to identify forward-looking statements. In addition, any statements that refer to projections of our future financial performance, trends in our businesses, or other characterizations of future events or circumstances are forward-looking statements.

The forward-looking statements included herein are based on current expectations of our management based on available information and involve a number of risks and uncertainties, all of which are difficult or impossible to accurately predict and many of which are beyond our control. As such, our actual results may differ significantly from those expressed in any forward-looking statements. Factors that may cause or contribute to such differences include, but are not limited to, those discussed in more detail in Item 1, "Business" and Item 1A, "Risk Factors" of Part I of our Annual Report on Form 10-K for the year ended December 31, 2015. Readers should carefully review these risks, as well as the additional risks described in other documents we file from time to time with the Securities and Exchange Commission. In light of the significant risks and uncertainties inherent in the forward-looking information included herein, the inclusion of such information should not be regarded as a representation by us or any other person that such results will be achieved, and readers are cautioned not to rely on such forward-looking information. We undertake no obligation to revise the forward-looking statements contained herein to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

Recent Accounting Pronouncements

In March 2016, the FASB issued ASU No. 2016-09, "Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting" ("ASU 2016-09"). The standard is intended to simplify several areas of accounting for share-based compensation arrangements, including income tax impact, classification on the statement of cash flows and forfeitures. ASU 2016-09 is effective for fiscal years, and interim

periods within those years, beginning after December 15, 2016, and early adoption is permitted. The impact that the standard will have on our consolidated financial statements will depend upon certain criteria including the timing of the exercise and release of equity instruments, the value realized upon exercise or release of equity instruments and the fair value of the equity instruments when they were granted. The excess tax benefit from the exercise of equity instruments was \$2.8 million and \$5.8 million for the nine months ended September 30, 2016 and 2015, respectively. In February 2016, the FASB issued ASU No. 2016-02, "Leases (Topic 842)" ("ASU 2016-02"). The standard requires a lessee to recognize assets and liabilities on the balance sheet for leases with lease terms greater than 12 months.

ASU 2016-02

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is effective for fiscal years, and interim periods within those years, beginning after December 15, 2018, and early adoption is permitted. We are currently evaluating the impact that the standard will have and do not expect it to have a material impact on our consolidated financial statements upon adoption.

In January 2016, the FASB issued ASU No. 2016-01, "Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities" ("ASU 2016-01"). The standard addresses certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. ASU 2016-01 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017, and early adoption is not permitted. We are currently evaluating the impact that the standard will have and do not expect it to have a material impact on our consolidated financial statements upon adoption.

In November 2015, the FASB issued amended guidance that clarifies that in a classified statement of financial position, an entity shall classify deferred tax liabilities and assets as non-current amounts. The new guidance supersedes ASC 740-10-45-5 which required the deferred tax assets and liabilities for a particular tax jurisdiction be allocated between current and non-current deferred tax assets for that tax jurisdiction on a pro rata basis. The new standard will become effective for our fiscal year beginning January 1, 2017. We have determined that the standard will not have a material impact on our consolidated financial statements upon adoption. Current deferred tax assets at September 30, 2016 and December 31, 2015 were \$24.6 million and \$20.3 million, respectively. Current deferred tax liabilities at September 30, 2016 and December 31, 2015 were \$4.0 million and \$3.2 million, respectively.

In May 2014, the FASB issued Accounting Standards Update No. 2014-09 ("ASU 2014-09") "Revenue from Contracts with Customers." ASU 2014-09 supersedes the revenue recognition requirements in "Revenue Recognition (Topic 605)", and requires entities to recognize revenue when it transfers promised goods or services to customers in an amount that reflects the

consideration to which the entity expects to be entitled to in exchange for those goods or services. As currently issued and

amended, ASU 2014-09 is effective for annual reporting periods beginning after December 15, 2017, including interim periods

within that reporting period, though early adoption is permitted for annual reporting periods beginning after December 15, 2016. We are currently in the process of evaluating the impact of the adoption of ASU 2014-09 on our consolidated financial statements and do not expect it to have a material impact on our consolidated financial statements upon adoption.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risk in the ordinary course of business, which consists primarily of interest rate risk associated with our cash and cash equivalents and our debt and foreign exchange rate risk.

Interest rate risk. Our investments have limited exposure to market risk. We maintain a portfolio of cash, cash equivalents and short-term investments, consisting primarily of bank deposits, money market funds, certificates of deposit, corporate notes and government and agency securities. None of these investments have a maturity date in excess of one year. The interest rates are variable and fluctuate with current market conditions. Because of the short-term nature of these instruments, a sudden change in market interest rates would not be expected to have a material impact on our financial condition or results of operations.

We are also exposed to market risk as a result of increases or decreases in the amount of interest expense we must pay on our bank debt and borrowings on our bank credit facilities. Our interest obligations on our long-term debt are fixed either by the underlying agreement or by means of an interest rate swap agreement. Although our U.S. revolving line of credit and our Euro credit facility have variable rates, we do not believe that a 10% change in market interest rates would have a material impact on our financial position or results of operations.

Exchange rates. Due to our international operations, a significant portion of our net sales, cost of sales and operating expenses are denominated in currencies other than the U.S. Dollar, principally the Euro, the Russian Ruble, the Chinese Yuan and the Japanese Yen. As a result, our international operations give rise to transactional market risk associated with exchange rate movements of the U.S. Dollar, the Euro, the Russian Ruble, the Chinese Yuan and the Japanese Yen. Gain on foreign exchange transactions totaled \$2.9 million for the three months ended September 30, 2016 and a loss of \$5.1 million for the three months ended September 30, 2015. Management attempts to minimize

these exposures by partially or fully off-setting foreign currency denominated assets and liabilities at our subsidiaries that operate in different functional currencies. The effectiveness of this strategy can be limited by the volume of underlying transactions at various subsidiaries and by our ability to accelerate or delay inter-company cash settlements. As a result, we are unable to create a perfect offset of the foreign currency denominated assets and liabilities. Furthermore, if we expect a currency movement to be beneficial to us in the short or medium term, we have, on occasions, chosen not to hedge or otherwise off-set the underlying assets or liabilities. However, it is difficult to predict foreign currency movements accurately. At September 30, 2016, our material foreign currency exposure is net U.S. Dollar denominated assets at subsidiaries where the Euro or the Russian Ruble is the functional currency and U.S. Dollar denominated liabilities where the Chinese Yuan is the functional currency. The net U.S. Dollar denominated assets are

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comprised of cash, third party receivables, inter-company receivables and inter-company notes offset by third party and inter-company U.S. Dollar denominated payables. The U.S. Dollar denominated liabilities are comprised of inter-company payables. A 5% change in the relative exchange rate of the U.S. Dollar to the Euro as of September 30, 2016 applied to the net U.S. Dollar asset balances, would result in a foreign exchange gain of \$5.8 million if the U.S. Dollar appreciated and a \$5.8 million foreign exchange loss if the U.S. Dollar depreciated.

In addition we are exposed to foreign currency translation risk for those subsidiaries whose functional currency is not the U.S. Dollar as changes in the value of their functional currency relative to the U.S. Dollar can adversely affect the translated amounts of our revenue, expenses, net income, assets and liabilities. This can, in turn, affect the reported value and relative growth of sales and net income from one period to the next. In addition changes in the translated value of assets and liabilities due to changes in functional currency exchange rates relative to the U.S. Dollar result in foreign currency translation adjustments that are a component of other comprehensive income or loss.

Foreign currency derivative instruments can also be used to hedge exposures and reduce the risks of certain foreign currency transactions; however, these instruments provide only limited protection and can carry significant cost. We have no foreign currency derivative instrument hedges as of September 30, 2016. We will continue to analyze our exposure to currency exchange rate fluctuations and may engage in financial hedging techniques in the future to attempt to minimize the effect of these potential fluctuations. Exchange rate fluctuations may adversely affect our financial results in the future.

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ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Under the supervision of our chief executive officer and our chief financial officer, our management has evaluated the effectiveness of the design and operation of our "disclosure controls and procedures" (as defined in Rules 13a-15(e) and 15d-15(e) promulgated under the Securities Exchange Act of 1934, as amended (the "Exchange Act")), as of the end of the period covered by this Quarterly Report on Form 10-Q (the "Evaluation Date"). Based upon that evaluation, our chief executive officer and our chief financial officer have concluded that, as of the Evaluation Date, our disclosure controls and procedures are effective.

Changes in Internal Controls

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

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PART II—OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

From time to time, we are party to various legal proceedings and other disputes incidental to our business. There have been no material developments to those proceedings reported in our Annual Report on Form 10-K for the year ended December 31, 2015, except that we have settled the lawsuit filed against us in November 2015 in the United States District Court for the Eastern District of Texas for alleged patent infringement.

ITEM 1A. RISK FACTORS

In addition to the other information set forth in this report, you should carefully consider the factors discussed in Part I, "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2015, which could materially affect our business, financial condition or future results. The risks described in our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q are not the only risks facing our Company. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition and/or operating results.

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

Issuer Purchases of Equity Securities

Date	Total Number of Shares (or Units) Purchased	Average Price Paid per Share (or Unit)	Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs	Maximum Number (or Approximate Dollar Value) of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs
January 1, 2016 — January 31, 2016	—	—	—	—
February 1, 2016 — February 29, 2016	—	—	—	—
March 1, 2016 — March 31, 2016	407	(1) \$ 84.09	—	—
April 1, 2016 — April 30, 2016	1,316	(1) 96.08	—	—
May 1, 2016 — May 31, 2016	—	—	—	—
June 1, 2016 — June 30, 2016	1,460	(1) 80.00	—	—
July 1, 2016 — July 31, 2016	—	(1) —	—	—
August 1, 2016 — August 31, 2016	448	(1) 84.74	—	—
September 1, 2016 — September 30, 2016	43,257	(1,2) 82.84	41,800	\$ 96,571
Total	46,888	\$ 83.15	41,800	\$ 96,571

In 2012, the Board of Directors approved "withhold to cover" as a tax payment method for vesting of restricted stock awards for certain employees. Pursuant to the "withhold to cover" method, we withheld from such employees (1) the shares noted in the table above to cover tax withholding related to the vesting of their awards. For the three months ended September 30, 2016, 1,905 shares were withheld at an average price of \$83.55 and for the nine months ended September 30, 2016, the Company withheld 5,088 shares at an average price of \$85.58.

On July 28, 2016, the Board of Directors authorized a share repurchase program (the "Program"). Under the Program, the Company's management is authorized to repurchase shares of common stock in an amount not to exceed the number of shares issued to employees and directors under its various employee and director equity (2) compensation and employee stock purchase plans from January 1, 2016 through December 31, 2017. The Program limits aggregate share repurchases to no more than \$100 million over a period ending June 30, 2018. For the three months ended September 30, 2016 and nine months ended September 30, 2016, the Company repurchased 41,800 shares of its common stock with an average price of \$83.33 per share in the open market.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

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ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

(a) Exhibits

Exhibit No.	Description
10.1	Third Amendment to Credit Facility Agreement between IPG Laser GmbH and Deutsche Bank AG, dated November 1, 2016
10.2	Annex I (Third Amendment) to Guarantee of IPG Laser GmbH to Deutsche Bank AG dated November 1, 2016
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a)
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a)
32	Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 1350
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Calculation Linkbase
101.LAB	XBRL Taxonomy Extension Label Linkbase
101.PRE	XBRL Taxonomy Extension Presentation Linkbase
101.DEF	XBRL Taxonomy Extension Definition Linkbase

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SIGNATURES

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.

IPG PHOTONICS CORPORATION

Date: November 2, 2016 By: /s/ Valentin P. Gapontsev
Valentin P. Gapontsev
Chairman and Chief Executive Officer
(Principal Executive Officer)

Date: November 2, 2016 By: /s/ Timothy P.V. Mammen
Timothy P.V. Mammen
Senior Vice President and Chief Financial Officer
(Principal Financial Officer)