PDF SOLUTIONS INC
Form 10-Q
November 06, 2017
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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, 2017

or

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

For the transition period from _______________ to ______________

Commission File Number 000-31311

PDF SOLUTIONS, INC.

(Exact name of Registrant as Specified in its Charter)

Delaware	**25-1701361**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
333 West San Carlos Street, Suite 1000	
San Jose, California	**95110**
(Address of Principal Executive Offices)	(Zip Code)

(408) 280-7900

(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 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 (Do not check if a smaller reporting company)	Smaller reporting company
Emerging growth company	

If an emerging growth company, indicated by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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

The number of shares outstanding of the Registrant's Common Stock as of October 30, 2017 was 31,947,582.

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PART I — FINANCIAL INFORMATION

Item 1. Financial Statements

PDF SOLUTIONS, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

(unaudited)

(in thousands, except par value)

	September 30, 2017	December 31, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	$ 100,750	$ 116,787
Accounts receivable, net of allowance of $324 and $200, respectively	52,954	48,157
Prepaid expenses and other current assets	6,580	5,335
Total current assets	160,284	170,279
Property and equipment, net	23,604	19,341
Goodwill	1,923	215
Intangible assets, net	6,325	4,223
Deferred tax assets	18,522	15,640
Other non-current assets	11,312	12,631
Total assets	$ 221,970	$ 222,329
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 2,608	$ 2,206
Accrued compensation and related benefits	5,450	5,959
Accrued and other current liabilities	2,436	2,080
Deferred revenues – current portion	7,624	8,189
Billings in excess of recognized revenue	289	88
Total current liabilities	18,407	18,522
Long-term income taxes payable	2,914	3,354
Other non-current liabilities	2,352	1,650
Total liabilities	23,673	23,526
Commitments and contingencies (Note 9)		
Stockholders' equity:		
	—	—

Preferred stock, $0.00015 par value, 5,000 shares authorized, no shares issued and outstanding		
Common stock, $0.00015 par value, 70,000 shares authorized: shares issued 39,506 and 38,514, respectively; shares outstanding 31,882 and 31,864, respectively	5	5
Additional paid-in-capital	294,359	281,423
Treasury stock at cost, 7,625 and 6,650 shares, respectively	(70,739)	(54,882)
Accumulated deficit	(24,455)	(25,752)
Accumulated other comprehensive loss	(873)	(1,991)
Total stockholders’ equity	198,297	198,803
Total liabilities and stockholders’ equity	$ 221,970	$ 222,329

See accompanying Notes to Condensed Consolidated Financial Statements (unaudited).

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PDF SOLUTIONS, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME

(unaudited)

(in thousands, except per share amounts)

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2017	2016	2017	2016
Revenues:				
Design-to-silicon-yield solutions	$19,229	$18,552	$55,426	$57,704
Gainshare performance incentives	7,288	8,707	19,668	21,324
Total revenues	26,517	27,259	75,094	79,028
Costs of Design-to-silicon-yield solutions:				
Direct costs of Design-to-silicon-yield solutions	12,295	11,366	34,913	32,034
Amortization of acquired technology	136	86	327	278
Total cost of Design-to-silicon-yield solutions	12,431	11,452	35,240	32,312
Gross profit	14,086	15,807	39,854	46,716
Operating expenses:				
Research and development	7,875	7,017	22,432	20,388
Selling, general and administrative	5,680	5,548	17,775	15,766
Amortization of other acquired intangible assets	107	106	291	340
Total operating expenses	13,662	12,671	40,498	36,494
Income (loss) from operations	424	3,136	(644)	10,222
Interest and other expense, net	(104)	(101)	(305)	(389)
Income (loss) before income taxes	320	3,035	(949)	9,833
Income tax provision (benefit)	(270)	1,051	(2,246)	3,655
Net income	$590	$1,984	$1,297	$6,178
Net income per share:				
Basic	$0.02	$0.06	$0.04	$0.20
Diluted	$0.02	$0.06	$0.04	$0.19
Weighted average common shares:				
Basic	32,078	31,413	32,060	31,286
Diluted	32,969	32,578	33,317	32,144

Net income	$590	$1,984	$1,297	$6,178
Other comprehensive income:				
Foreign currency translation adjustments, net of tax	409	157	1,117	331
Comprehensive income	$999	$2,141	$2,414	$6,509

See accompanying Notes to Condensed Consolidated Financial Statements (unaudited).

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PDF SOLUTIONS, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(unaudited)

(in thousands)

	Nine Months Ended September 30,	
	2017	**2016**
Operating activities:		
Net income	$1,297	$6,178
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	3,549	2,584
Stock-based compensation expense	8,737	7,935
Amortization of acquired intangible assets	618	617
Deferred taxes	(3,514)	1,083
Loss on disposal of property and equipment	5	107
Provision for (reversal of) allowance for doubtful accounts	124	(99)
Unrealized loss (gain) on foreign currency forward contract	(6)	(54)
Changes in operating assets and liabilities:		
Accounts receivable, net of allowance	(4,921)	(10,486)
Prepaid expenses and other current assets	(1,142)	(1,486)
Accounts payable	1,611	33
Accrued compensation and related benefits	(721)	277
Accrued and other liabilities	(225)	139
Deferred revenues	(682)	3,959
Billings in excess of recognized revenues	200	(1,194)
Other non-current assets	1,331	(7,764)
Net cash provided by operating activities	6,261	1,829
Investing activities:		
Payments for business acquisitions, net of cash acquired	(3,841)	-
Purchases of property and equipment	(6,942)	(8,860)
Net cash used in investing activities	(10,783)	(8,860)
Financing activities:		
Proceeds from exercise of stock options	2,304	1,132
Proceeds from employee stock purchase plan	1,866	1,558
Repurchases of common stock	(13,418)	(2,182)
Payments for taxes related to net share settlement of equity awards	(2,439)	(1,161)
Net cash used in financing activities	(11,687)	(653)
Effect of exchange rate changes on cash and cash equivalents	172	60
Net change in cash and cash equivalents	(16,037)	(7,624)
Cash and cash equivalents, beginning of period	116,787	126,158
Cash and cash equivalents, end of period	$100,750	$118,534

Supplemental disclosure of cash flow information:		
Cash paid during the period for:		
Taxes	$1,876	$2,616
Property and equipment received and accrued in accounts payable and accrued and other liabilities	$1,533	$913

See accompanying Notes to Condensed Consolidated Financial Statements (unaudited).

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PDF SOLUTIONS, INC.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

1. BASIS OF PRESENTATION

Basis of Presentation

The interim unaudited condensed consolidated financial statements included herein have been prepared by PDF Solutions, Inc. (the “Company”) pursuant to the rules and regulations of the Securities and Exchange Commission (“SEC”), including the instructions to the Quarterly Report on Form 10-Q and Article 10 of Regulation S-X. Certain information and footnote disclosures normally included in annual financial statements prepared in accordance with accounting principles generally accepted in the United States of America have been condensed or omitted. The interim unaudited condensed consolidated financial statements reflect, in the opinion of management, all adjustments necessary (consisting only of normal recurring adjustments), to present a fair statement of results for the interim periods presented. The operating results for any interim period are not necessarily indicative of the results that may be expected for other interim periods or the full fiscal year. The accompanying interim unaudited condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto in the Company’s Annual Report on Form 10-K for the year ended December 31, 2016.

The condensed consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries after the elimination of all intercompany balances and transactions.

The condensed consolidated balance sheet at December 31, 2016, has been derived from the audited consolidated financial statements but does not include all disclosures required by accounting principles generally accepted in the United States of America.

Use of Estimates — The preparation of financial statements in conformity with generally accepted accounting principles in the United States (“U.S. GAAP”) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant estimates in these financial statements include revenue recognition for fixed-price solution implementation service contracts, accounting for goodwill and intangible assets, stock-based compensation expense and accounting for income taxes. Actual results could differ from those estimates.

Revenue Recognition — The Company derives revenue from two sources: Design-to-silicon-yield solutions and Gainshare performance incentives.

Design-to-silicon-yield solutions — Revenues that are derived from Design-to-silicon-yield solutions come from services and software and hardware licenses. The Company recognizes revenue for each element of Design-to-silicon-yield solutions as follows:

The Company generates a significant portion of its Design-to-silicon-yield solutions revenue from fixed-price solution implementation service contracts delivered over a specific period of time. These contracts require reliable estimation of costs to perform obligations and the overall scope of each engagement. Revenue under project–based contracts for solution implementation services is recognized as services are performed using percentage of completion method of contract accounting based on costs or labor-hours input method, whichever is the most appropriate measure of the progress towards completion of the contract. Losses on fixed-price solution implementation contracts are recognized in the period when they become probable. Revisions in profit estimates are reflected in the period in which the conditions that require the revisions become known and can be estimated (cumulative catch-up method). Revenue under time and materials contracts for solution implementation services are recognized as the services are performed.

On occasion, the Company licenses its software products as a component of its fixed-price service contracts. In such instances, the software products are licensed to customers over a specified term of the agreement with support and maintenance to be provided, if applicable, over the license term. The amount of product and service revenue recognized in a given period is affected by the Company’s judgment as to whether an arrangement includes multiple deliverables and, if so, the Company’s determination of the fair value of each deliverable. In general, vendor-specific objective evidence of selling price (“VSOE”) does not exist for the Company’s solution implementation services and software products and because the Company’s services and products include our unique technology, the Company is not able to determine third-party evidence of selling price (“TPE”). Therefore, in such circumstances the Company uses best estimated selling prices (“BESP”) in the allocation of arrangement consideration. In determining BESP, the Company applies significant judgment as the Company’s weighs a variety of factors, based on the facts and circumstances of the arrangement. The Company typically arrives at BESP for a product or service that is not sold separately by considering company-specific factors such as geographies, internal costs, gross margin objectives, pricing practices used to establish bundled pricing, and existing portfolio pricing and discounting. After fair value is established for each deliverable, the total transaction amount is allocated to each deliverable based upon its relative selling price. Fees allocated to solution implementation services are recognized using the percentage of completion method of contract accounting. Fees allocated to software and related support and maintenance are recognized under software revenue recognition guidance.

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In some instances, the Company also licenses its Design-For-Inspection (“DFI”) system as a separate component of fixed-price service contracts. The Company allocates revenue to all deliverables based on their relative selling prices. The Company currently does not have VSOE for its DFI system, thus the Company uses either TPE or BESP in the allocation of arrangement consideration.

The Company defers certain pre-contract costs incurred for specific anticipated contracts. Deferred costs consist primarily of direct costs to provide solution implementation services in relation to the specific anticipated contracts. The Company recognizes such costs as a component of cost of revenues, the timing of which is dependent upon persuasive evidence of contract arrangement assuming all other revenue recognition criteria are met. The Company also defers costs from arrangements that required us to defer the revenues, typically due to revenue recognition from multi-element arrangements or from contracts subject to customer acceptance. These costs are recognized in proportion to the related revenue. At the end of the reporting period, the Company evaluates its deferred costs for their probable recoverability. The Company recognizes impairment of deferred costs when it is determined that the costs no longer have future benefits and are no longer recoverable. The deferred costs balance was $0.6 million and $0.5 million as of September 30, 2017 and December 31, 2016, respectively. The balance was included in prepaid expenses and other current assets and other non-current assets in the accompanying consolidated balance sheets.

The Company also licenses its software products separately from solution implementations. For software license arrangements that do not require significant modification or customization of the underlying software, software license revenue is recognized under the residual method when (l) persuasive evidence of an arrangement exists, (2) delivery has occurred, (3) the fee is fixed or determinable, (4) collectability is probable, and (5) the arrangement does not require services that are essential to the functionality of the software. When arrangements include multiple elements such as support and maintenance, consulting (other than for fixed price solution implementations), installation, and training, revenue is allocated to each element of a transaction based upon its fair value as determined by the Company's VSOE and such services are recorded as services revenue. VSOE for maintenance is generally established based upon negotiated renewal rates while VSOE for consulting, installation, and training services is established based upon the Company's customary pricing for such services when sold separately. When software is licensed for a specified term, fees for support and maintenance are generally bundled with the license fee over the entire term of the contract. The Company is unable to establish VSOE of fair value for maintenance services that are generally bundled with term licenses. In these cases, the Company recognizes revenue ratably over the term of the contract. For multiple-element arrangements containing non-software services, the Company: (1) determines whether each element constitutes a separate unit of accounting; (2) determines the fair value of each element using the selling price hierarchy of VSOE, TPE or BESP, as applicable; and (3) allocates the total price to each separate unit of accounting based on the relative selling price method. An element constitutes a separate unit of accounting when the delivered item has standalone value and delivery of the undelivered element is probable and within our control. For multiple-element arrangements that contain both software and non-software elements, the Company allocates revenue to software or software-related elements as a group and any non-software elements separately based on the selling price hierarchy of VSOE, TPE or BESP. Once revenue is allocated to software or software-related elements as a group, we recognize revenue in conformance with software revenue accounting guidance. Revenue is recognized when revenue recognition criteria are met for each element.

Revenue from software-as-a-service (SaaS) that allow for the use of a hosted software product or service over a contractually determined period of time without taking possession of software are accounted for as subscriptions and recognized as revenue ratably over the coverage period beginning on the date the service is made available to customers. Revenue for software licenses with extended payment terms is not recognized in excess of amounts due. For software license arrangements that require significant modification or customization of the underlying software, the software license revenue is recognized as services are performed using the percentage of completion method of contract accounting, and such revenue is recorded as services revenue.

Deferred revenues consist substantially of amounts invoiced in advance of revenue recognition and is recognized as the revenue recognition criteria are met. Deferred revenues that will be recognized during the succeeding 12 month period is recorded as current deferred revenues and the remaining portion is recorded as non- current deferred revenues. Non-current portion of deferred revenue was $1.6 million and $1.5 million, respectively, as of September 30, 2017 and December 31, 2016. This balance was recorded in the other non-current liabilities in the accompanying consolidated balance sheets.

Gainshare Performance Incentives — When the Company enters into a contract to provide yield improvement services, the contract usually includes two components: (1) a fixed fee for performance by the Company of services delivered over a specific period of time; and (2) a Gainshare performance incentive component where the customer may pay a contingent variable fee, usually after the fixed fee period has ended. Revenue derived from Gainshare performance incentives represents profit sharing and performance incentives earned contingent upon the Company's customers reaching certain defined operational levels established in related solution implementation service contracts. Gainshare performance incentives periods are usually subsequent to the delivery of all contractual services and therefore have virtually no cost to the Company. Due to the uncertainties surrounding attainment of such operational levels, the Company recognizes Gainshare performance incentives revenue (to the extent of completion of the related solution implementation contract) upon receipt of performance reports or other related information from the customer supporting the determination of amounts and probability of collection.

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2. RECENT ACCOUNTING PRONOUNCEMENTS

In May 2014, the FASB issued ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606) as modified by ASU No. 2015-14, Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date, ASU 2016-08, Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net), ASU No. 2016-10, Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing, ASU No. 2016-11, Revenue Recognition (Topic 605) and Derivatives and Hedging (Topic 815), ASU No. 2016-12, Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients, ASU 2016-20, Revenue from Contracts with Customers (Topic 606): Technical Corrections and Improvements, and ASU 2017-13, Revenue Recognition (Topic 605), Leases (Topic 840), and Leases (Topic 842): Amendments to SEC Paragraphs Pursuant to the Staff Announcement at the July 20, 2017 EITF Meeting and Rescission of Prior SEC Staff Announcement and Observer Comments. The new revenue recognition standard provides a five-step analysis of transactions to determine when and how revenue is recognized. The core principle is that a company should recognize revenue to reflect the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. This new standard is effective for annual periods beginning after December 15, 2017, including interim periods within that reporting period. The new standard also permits two methods of adoption: retrospectively to each prior reporting period presented (full retrospective method), or retrospectively with the cumulative effect of initially applying the guidance recognized at the date of initial application (the modified retrospective method). The Company is finalizing evaluation of the impact of adopting this new accounting standard on its consolidated financial statements and footnote disclosures. The Company currently intends to adopt the standard using the modified retrospective method.

In February 2016, the Financial Accounting Standards Board (or FASB) issued ASU No. 2016-02, Leases (Topic 842). The update requires that most leases, including operating leases, be recorded on the balance sheet as an asset and a liability, initially measured at the present value of the lease payments. Subsequently, the lease asset will be amortized generally on a straight-line basis over the lease term, and the lease liability will bear interest expense and be reduced for lease payments. The amendments in this update are effective for public companies' financial statements issued for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The Company is still in the process of evaluating the impact of adopting this new accounting standard on its consolidated financial statements and footnote disclosures.

In August 2016, the FASB issued ASU No. 2016-15, Classification of Certain Cash Receipts and Cash Payments. The purpose of this standard is to clarify the treatment of several cash flow categories. This update is effective for annual periods beginning after December 15, 2017, and interim periods within those fiscal years, with early adoption permitted, including adoption in an interim period. The adoption of this standard is not expected to have a material impact on our financial statements and footnote disclosures.

In January 2017, the FASB issued ASU No. 2017-01, Business Combinations: Clarifying the Definition of a Business, which narrows the existing definition of a business and provides a framework for evaluating whether a transaction

should be accounted for as an acquisition (or disposal) of assets or a business.
The guidance is effective for fiscal years beginning after December 15, 2017, with early adoption permitted.The Company does not anticipate that the adoption of this standard will have a significant impact on our consolidated financial statements or the related disclosures.

In January 2017, the FASB issued ASU No. 2017-04, Intangibles - Goodwill and Other (Topic 350) (“ASU No. 2017-04”). ASU No. 2017-04 eliminates step 2 from the annual goodwill impairment test. This update is effective for annual periods beginning after December 15, 2019, and interim periods within those fiscal years, with early adoption permitted, and is to be applied on a prospective basis. The Company does not anticipate that the adoption of this standard will have a significant impact on our consolidated financial statements or the related disclosures.

In May 2017, the FASB issued ASU No. 2017-09, Compensation-Stock Compensation (Topic 718) Scope of Modification Accounting (“ASU No. 2017-09”). ASU No. 2017-09 clarifies which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in Topic 718. The standard is effective for interim and annual reporting periods beginning after December 15, 2017, with early adoption permitted. The adoption of this standard will impact modifications that happen after the adoption date.

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3. BUSINESS COMBINATIONS

On July 11, 2017 (the "Acquisition Date"), the Company completed a transaction to acquire certain assets from Realtime Performance Europe B.V. (formerly doing business as Kinesys Software). Pursuant to the terms of an asset purchase agreement, the Company acquired the ALPS and GEMbox software products and certain related liabilities for the purpose of adding device traceability and process data collection through assembly and test to the software products it licenses.

The total purchase price was $4.3 million, of which $0.5 million was classified and recorded as the fair value of the contingent consideration on the balance sheet as of Acquisition Date. The Company may pay the contingent consideration through July 11, 2019, with a maximum potential payment amount of up to $0.6 million, depending on the completion of certain milestones related to the integration of the ALPS software into the Company's Exensio platform and licenses thereof. The fair value of the contingent consideration liability was determined as of the Acquisition Date using unobservable inputs. These inputs include the probability of meeting the milestones related to the integration and license of the ALPS software and a risk-adjusted discount rate to adjust the probability-weighted cash flows to present value.

The Company accounted for this acquisition as a business combination. This method requires that assets acquired and liabilities assumed in a business combination be recognized at their fair values as of the Acquisition Date. The excess of purchase consideration over the fair value of net tangible and identifiable intangible assets acquired was recorded as goodwill. The goodwill recorded from this acquisition represents business benefits the Company anticipates realizing from optimizing resources and new and expanded sales opportunities that extend the Company's footprint throughout the entire systems value chain. The amount of goodwill expected to be deductible for tax purposes is $1.7 million. Pro forma results of operations have not been presented because the effect of the acquisition was not material to our financial results.

Intangible assets consist of developed technology, customer relationships, and trademarks. The value assigned to intangibles are based on estimates and judgments regarding expectations for success and life cycle of intangibles acquired. The following table summarizes the allocation of the purchase consideration transferred to the fair value of the tangible and intangible assets acquired and liabilities assumed as of the acquisition date:

	(in thousands)	**Amortization period (years)**
Finite-lived intangible assets:		

Developed technology	1,720	9
Customer relationship	820	9
Tradename	180	7
Deferred revenue	(190)	
Other receivables	53	
Net asset acquired	**2,583**	
Goodwill	1,708	
Purchase consideration	**$ 4,291**	

4. BALANCE SHEET COMPONENTS

Accounts receivable include amounts that are unbilled at the end of the period that are expected to be billed and collected within 12-month period. Unbilled accounts receivable are primarily determined on an individual contract basis. Unbilled accounts receivable, included in accounts receivable, totaled $20.7 million and $20.8 million as of September 30, 2017 and December 31, 2016, respectively. Unbilled accounts receivable that are not expected to be billed and collected during the succeeding 12-month period are recorded in other non-current assets and totaled $9.1 million and $9.8 million as of September 30, 2017 and December 31, 2016, respectively. Deferred costs balance was $0.6 million and $0.5 million as of September 30, 2017 and December 31, 2016, respectively. The balance was included in prepaid expense and other current assets and other non-current assets in the accompanying balance sheets.

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Property and equipment, net consists of (in thousands):

	September 30, 2017	December 31, 2016
Property and equipment, net:		
Computer equipment	$ 10,756	$ 10,642
Software	3,359	1,679
Furniture, fixtures and equipment	1,927	1,185
Leasehold improvements	1,983	1,132
DFI test equipment	5,341	3,367
Other test equipment	8,191	8,356
Construction-in-progress	11,837	9,550
	43,394	35,911
Less: accumulated depreciation	(19,790)	(16,570)
Total	$ 23,604	$ 19,341

The construction-in-progress balance as of September 30, 2017 and December 31, 2016 was primarily related to construction of DFI assets. Depreciation and amortization expense was $1.3 million and $1.0 million for the three months ended September 30, 2017 and 2016, respectively. Depreciation and amortization expense was $3.5 million and $2.6 million for the nine months ended September 30, 2017 and 2016, respectively.

As of September 30, 2017 and December 31, 2016, the carrying amount of goodwill was $1.9 million and $0.2 million, respectively. The following is a rollforward of the Company's goodwill balance (in thousands):

	September 30, 2017
Balance as of December 31, 2016	$ 215
Add: Goodwill from acquisition	1,708
Adjustment	—
Balance as of September 30, 2017	$ 1,923

Intangible assets balance was $6.4 million and $4.2 million as of September 30, 2017 and December 31, 2016, respectively. Intangible assets as of September 30, 2017 and December 31, 2016 consist of the following (in thousands):

	Amortization Period (Years)	September 30, 2017 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	December 31, 2016 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Acquired identifiable intangibles:							
Customer relationships	1 - 9	$6,740	$ (4,054)	$ 2,686	$5,920	$ (3,825)	$ 2,095
Developed technology	4 - 6	15,820	(12,686)	3,134	14,100	(12,359)	1,741
Tradename	2 - 4	790	(615)	175	610	(583)	27
Backlog	1	100	(100)	-	100	(100)	-
Patent	7 - 10	1,800	(1,470)	330	1,800	(1,440)	360
Other acquired intangibles	4	255	(255)	-	255	(255)	-
Total		$25,505	$ (19,180)	$ 6,325	$22,785	$ (18,562)	$ 4,223

The weighted average amortization period for acquired identifiable intangible assets was 6.96 years as of September 30, 2017. For both the three months ended September 30, 2017 and 2016, intangible asset amortization expense was $0.2 million. For both the nine months ended September 30, 2017 and 2016, intangible asset amortization expense was $0.6 million. The Company expects annual amortization of acquired identifiable intangible assets to be as follows (in thousands):

Period Ending September 30,	
2017 (remaining 3 months)	$251
2018	1,009
2019	1,009
2020	1,009
2021	833
2022 and thereafter	2,214
Total future amortization expense	$6,325

Intangible assets are amortized over their useful lives unless these lives are determined to be indefinite. Intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset or asset group may not be recoverable. During the three and nine months ended September 30, 2017, there were no indicators of impairment related to the Company's intangible assets.

5. STOCKHOLDERS' EQUITY

Stock-based compensation is estimated at the grant date based on the award's fair value and is recognized on a straight-line basis over the vesting periods, generally four years. Stock-based compensation expense before taxes related to the Company's stock plans and employee stock purchase plan was allocated as follows (in thousands):

	Three Months Ended September 30,		**Nine Months Ended September 30,**	
	2017	**2016**	**2017**	**2016**
Cost of design-to-silicon yield-solutions	$1,184	$1,191	$3,445	$3,232
Research and development	877	894	2,558	2,251
Selling, general and administrative	888	892	2,734	2,452
Stock-based compensation expenses	$2,949	$2,977	$8,737	$7,935

On September 30, 2017, the Company had the following stock-based compensation plans:

Stock Plans — At the annual meeting of stockholders on November 16, 2011, the Company's stockholders approved the 2011 Stock Incentive Plan (as amended, the "2011 Plan"). Under the 2011 Plan, the Company may award stock options, stock appreciation rights, stock grants or stock units covering shares of the Company's common stock to employees, directors, non-employee directors and contractors. The aggregate number of shares reserved for awards under this plan is 9,050,000 shares, plus up to 3,500,000 shares previously issued under the 2001 Plan that are forfeited or repurchased by the Company or shares subject to awards previously issued under the 2001 Plan that expire or that terminate without having been exercised or settled in full on or after November 16, 2011. In case of awards other than options or stock appreciation rights, the aggregate number of shares reserved under the plan will be decreased at a rate of 1.33 shares issued pursuant to such awards. The exercise price for stock options must generally be at prices no less than the fair market value at the date of grant. Stock options generally expire ten years from the date of grant and become vested and exercisable over a four-year period.

In 2001, the Company adopted a 2001 Stock Plan (the "2001 Plan"). In 2003, in connection with its acquisition of IDS Systems Inc., the Company assumed IDS' 2001 Stock Option / Stock Issuance Plan (the "IDS Plan"). Both of the

2001Plan and the IDS Plans expired in 2011. Stock options granted under the 2001 and IDS Plans generally expire ten years from the date of grant and become vested and exercisable over a four-year period. Although no new awards may be granted under the 2001 or IDS Plans, awards made under the 2001 and IDS Plans that are currently outstanding remain subject to the terms of each such plan, respectively.

The Company estimated the fair value of share-based awards granted under the 2011 Stock Plan during the period using the Black-Scholes-Merton option-pricing model with the following weighted average assumptions, resulting in the following weighted average fair values:

	Three Months Ended September 30,		**Nine Months Ended September 30,**	
	2017	**2016**	**2017**	**2016**
Expected life (in years)	4.41	4.42	4.41	4.42
Volatility	41.49 %	42.97 %	41.53 %	43.82 %
Risk-free interest rate	1.65 %	1.10 %	1.69 %	1.20 %
Expected dividend	—	—	—	—
Weighted average fair value per share of options granted during the period	$5.78	$5.52	$6.14	$4.82

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As of September 30, 2017, 9.6 million shares of common stock were reserved to cover stock-based awards under the 2011 Plan, of which 3.9 million shares were available for future grant. The number of shares reserved and available under the 2011 Plan includes 0.5 million shares that were subject to awards previously made under the 2001 Plan and were forfeited, expired or repurchased by the Company after adoption of the 2011 Plan through September 30, 2017. As of September 30, 2017, there were no outstanding awards that had been granted outside of the 2011 Plan, 2001 Plan or the IDS Plan (collectively, the " Stock Plans").

Stock option activity under the Company's Stock Plans during the nine months ended September 30, 2017, was as follows:

	Number of Options (in thousands)	**Weighted Average Exercise Price per Share**	**Weighted Average Remaining Contractual Term (years)**	**Aggregate Intrinsic Value (in thousands)**
Outstanding, January 1, 2017	1,364	$ 8.00		
Granted (weighted average fair value of $6.14 per share)	100	$ 16.97		
Exercised	(366)	$ 6.43		
Canceled	(16)	$ 15.63		
Expired	(1)	$ 18.10		
Outstanding, September 30, 2017	1,081	$ 9.23	4.73	$ 7,133
Vested and expected to vest, September 30, 2017	1,065	$ 9.13	4.66	$ 7,124
Exercisable, September 30, 2017	893	$ 7.82	3.82	$ 6,966

The aggregate intrinsic value in the table above represents the total intrinsic value based on the Company's closing stock price of $15.49 per share as of September 30, 2017. The total intrinsic value of options exercised during the nine months ended September 30, 2017, was $4.6 million.

As of September 30, 2017, there was $1.0 million of total unrecognized compensation cost related to unvested stock options. That cost is expected to be recognized over a weighted average period of 3.3 years. The total fair value of shares vested during the nine months ended September 30, 2017, was $0.2 million.

Nonvested restricted stock units activity during the nine months ended September 30, 2017, was as follows:

	Shares	**Weighted**

	(in thousands)	Average Grant Date Fair Value Per Share
Nonvested, January 1, 2017	1,542	$ 15.50
Granted	793	$ 16.53
Vested	(431)	$ 15.78
Forfeited	(99)	$ 15.93
Nonvested, September 30, 2017	1,805	$ 15.86

As of September 30, 2017, there was $23.3 million of total unrecognized compensation cost related to nonvested restricted stock units. That cost is expected to be recognized over a weighted average period of 2.8 years. Restricted stock units do not have rights to dividends prior to vesting.

Employee Stock Purchase Plan — In July 2001, the Company adopted a ten-year Employee Stock Purchase Plan (as amended, the "Purchase Plan") under which eligible employees can contribute up to 10% of their compensation, as defined in the Purchase Plan, towards the purchase of shares of PDF common stock at a price of 85% of the lower of the fair market value at the beginning of the offering period or the end of the purchase period. The Purchase Plan consists of twenty-four-month offering periods with four six-month purchase periods in each offering period. Under the Purchase Plan, on January 1 of each year, starting with 2002, the number of shares reserved for issuance will automatically increase by the lesser of (1) 675,000 shares, (2) 2% of the Company's outstanding common stock on the last day of the immediately preceding year, or (3) the number of shares determined by the board of directors. At the annual meeting of stockholders on May 18, 2010, the Company's stockholders approved an amendment to the Purchase Plan to extend it through May 17, 2020.

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The Company estimated the fair value of purchase rights granted under the Purchase Plan during the period using the Black-Scholes-Merton option-pricing model with the following weighted average assumptions, resulting in the following weighted average fair values:

	Nine Months Ended September 30,	
	2017	**2016**
Expected life (in years)	1.25	1.25
Volatility	40.63 %	44.00 %
Risk-free interest rate	1.25 %	0.50 %
Expected dividend	—	—
Weighted average fair value per share of options granted during the period	$ 5.22	$ 3.70

During the three months ended September 30, 2017 and 2016, a total of 99,550 and 88,543 shares, respectively, were issued at a weighted-average purchase price of $9.53 and $8.81 per share. During the nine months ended September 30, 2017 and 2016, a total of 199,827 and 173,001 shares, respectively, were issued at a weighted-average purchase price of $9.33 and $9.00 per share, respectively. As of September 30, 2017, there was $0.5 million of unrecognized compensation cost related to the Purchase Plan. That cost is expected to be recognized over a weighted average period of 1.24 years. As of September 30, 2017, 4.3 million shares were available for future issuance under the Purchase Plan.

Stock Repurchase Program —On October 25, 2016, the Board of Directors adopted a program, effective immediately, to repurchase up to $25.0 million of the Company’s common stock both on the open market and in privately negotiated transactions over the next two years. During the three and nine months ended September 30, 2017, the Company repurchased 565,903 shares and 842,182 shares under this program. As of September 30, 2017, 842,182 shares had been repurchased at an average price of $15.93 per share under this program for a total purchase of $13.4 million, and $11.6 million remained available for future repurchases.

6. INCOME TAXES

Income tax provision decreased $5.9 million for the nine months ended September 30, 2017, to $2.2 million income tax benefit as compared to an income tax provision of $3.7 million for the nine months ended September 30, 2016. The Company’s effective tax rate was 236.7% and 37.3% for the nine months ended September 30, 2017 and 2016, respectively. The Company’s effective tax rate increased in the nine months ended September 30, 2017, as compared to the same period in 2016, primarily due to the recognition of excess tax benefits related to employee stock compensation of $1.6 million as well as the decrease in income.

The Company’s total amount of unrecognized tax benefits, excluding interest and penalties, as of September 30, 2017, was $12.7 million, of which $7.6 million, if recognized, would decrease the Company’s effective tax rate. The Company’s total amount of unrecognized tax benefits, excluding interest and penalties, as of December 31, 2016, was $11.9 million, of which $7.2 million, if recognized, would affect the Company's effective tax rate. As of September 30, 2017, the Company had recorded unrecognized tax benefits of $2.9 million, including interest and penalties, as long-term taxes payable in its condensed consolidated balance sheet. The remaining $9.8 million has been recorded net of our deferred tax assets, of which $5.1 million is subject to a full valuation allowance.

The valuation allowance was approximately $7.5 million and $6.8 million as of September 30, 2017 and December 31, 2016, respectively, which was related to California R&D tax credits and California net operating losses related to our acquisition of Syntricity that we currently do not believe are more likely than not to be ultimately realized.

The Company conducts business globally and, as a result, files numerous consolidated and separate income tax returns in the U.S. federal, various state and foreign jurisdictions. Because the Company used some of the tax attributes carried forward from previous years to tax years that are still open, statutes of limitation remain open for all tax years to the extent of the attributes carried forward into tax year 2002 for federal and California tax purposes. The Company is not subject to income tax examinations in any of its major foreign subsidiaries’ jurisdictions.

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7. NET INCOME PER SHARE

Basic net income per share is computed by dividing net income by weighted average number of common shares outstanding for the period (excluding outstanding stock options and shares subject to repurchase). Diluted net income per share is computed using the weighted-average number of common shares outstanding for the period plus the potential effect of dilutive securities which are convertible into common shares (using the treasury stock method), except in cases in which the effect would be anti-dilutive. The following is a reconciliation of the numerators and denominators used in computing basic and diluted net income per share (in thousands except per share amount):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Numerator:				
Net income	$590	$1,984	$1,297	$6,178
Denominator:				
Basic weighted average common shares outstanding	32,078	31,413	32,060	31,286
Dilutive effect of equity incentive plans	891	1,165	1,257	858
Diluted weighted average common shares outstanding	32,969	32,578	33,317	32,144
Net income per share:				
Basic	$0.02	$0.06	$0.04	$0.20
Diluted	$0.02	$0.06	$0.04	$0.19

The following table sets forth potential shares of common stock that are not included in the diluted net income per share calculation above because to do so would be anti-dilutive for the periods indicated (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Outstanding options	211	119	109	188
Nonvested restricted stock units	15	226	12	389
Employee Stock Purchase Plan	68	25	42	162
Total	294	370	163	739

8. CUSTOMER AND GEOGRAPHIC INFORMATION

Operating segments are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision maker, or group, in deciding how to allocate resources and in assessing performance.

The Company's chief operating decision maker, the chief executive officer, reviews discrete financial information presented on a consolidated basis for purposes of regularly making operating decisions, allocation of resources, and assessing financial performance. Accordingly, the Company considers itself to be in one operating and reporting segment, specifically the licensing and implementation of yield improvement solutions for integrated circuits manufacturers.

The Company had revenues from individual customers in excess of 10% of total revenues as follows:

Customer	Three Months Ended September 30, 2017	2016	Nine Months Ended September 30, 2017	2016
A	38 %	38 %	41 %	42 %
B	* %	12 %	* %	12 %

* represents less than 10%

The Company had gross accounts receivable from individual customers in excess of 10% of gross accounts receivable as follows:

Customer	September 30, 2017	December 31, 2016
A	44 %	42 %
C	15 %	13 %

* represents less than 10%

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Revenues from customers by geographic area based on the location of the customers' work sites are as follows (in thousands):

	Three Months Ended September 30,					
	2017			2016		
	Revenues	Percentage of Revenues		Revenues	Percentage of Revenues	
United States	$9,750	37	%	$8,680	32	%
China	6,452	24		2,907	11	
Germany	2,729	10		4,896	18	
Taiwan	2,414	9		4,079	15	
South Korea	1,539	6		3,027	11	
Rest of the world	3,633	14		3,670	13	
Total revenue	$26,517	100	%	$27,259	100	%

	Nine Months Ended September 30,					
	2017			2016		
	Revenues	Percentage of Revenues		Revenues	Percentage of Revenues	
United States	$30,610	41	%	$30,320	38	%
China	12,891	17		5,506	7	
Taiwan	9,894	13		11,988	15	
Germany	6,831	9		11,924	15	
South Korea	5,159	7		8,523	11	
Rest of the world	9,709	13		10,767	14	
Total revenue	$75,094	100	%	$79,028	100	%

Long-lived assets, net by geographic area are as follows (in thousands):

	September 30,	December 31,

	2017	2016
United States	$ 23,117	$ 18,818
Rest of the world	487	523
Total long-lived assets, net	$ 23,604	$ 19,341

9. FAIR VALUE MEASUREMENTS

Fair value is the exit price, or the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. The multiple assumptions used to value financial instruments are referred to as inputs, and a hierarchy for inputs used in measuring fair value is established, that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs reflect assumptions market participants would use in pricing an asset or liability based on market data obtained from independent sources while unobservable inputs reflect a reporting entity's pricing based upon its own market assumptions. These inputs are ranked according to a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels.

Level 1 -	Inputs are quoted prices in active markets for identical assets or liabilities.
Level 2 -	Inputs are quoted prices for similar assets or liabilities in an active market, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable and market-corroborated inputs which are derived principally from or corroborated by observable market data.
Level 3 -	Inputs are derived from valuation techniques in which one or more significant inputs or value drivers are unobservable.

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The following table represents the Company's assets measured at fair value on a recurring basis as of September 30, 2017, and the basis for that measurement (in thousands):

Assets	**Total**	**Quoted Prices in Active Markets for Identical Assets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**
Money market mutual funds	$26,577	$ 26,577	$ —	$ —

The following table represents the Company's assets measured at fair value on a recurring basis as of December 31, 2016, and the basis for that measurement (in thousands):

Assets	**Total**	**Quoted Prices in Active Markets for Identical Assets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**
Money market mutual funds	$26,456	$ 26,456	$ —	$ —

The Company enters into foreign currency forward contracts to reduce the exposure to foreign currency exchange rate fluctuations on certain foreign currency denominated monetary assets and liabilities, primarily on third-party accounts payables and intercompany balances. The primary objective of the Company's hedging program is to reduce volatility of earnings related to foreign currency exchange rate fluctuations. The counterparty to these foreign currency forward contracts is a large global financial institution that the Company believes is creditworthy, and therefore, the Company believes the credit risk of counterparty nonperformance is not significant. These foreign currency forward contracts are not designated for hedge accounting treatment. Therefore, the change in fair value of these contracts is recorded into earnings as a component of other income (expense), net, and offsets the change in fair value of the foreign currency denominated assets and liabilities, which is also recorded in other income (expense), net. For the three months ended September 30, 2017 and 2016, the Company recognized a realized gain of $0.2 million and $37,000 on the contracts, respectively, which was recorded in other income (expense), net in the Company's Statements of Operations and Comprehensive Income. For the nine months ended September 30, 2017 and 2016, the Company recognized a realized gain of $0.7 million and a realized gain of $45,000 on the contracts, respectively, which was recorded in other income (expense), net in the Company's Statement of Operations and Comprehensive Income.

The Company carries these derivatives financial instruments on its Consolidated Balance Sheets at their fair values. The Company's foreign currency forward contracts are classified as Level 2 because it is not actively traded and the valuation inputs are based on quoted prices and market observable data of similar instruments. As of September 30, 2017, the Company had one outstanding forward contract with a notional amount of $8.0 million and recorded $10,000 other current liabilities associated with this outstanding forward contract. As of December 31, 2016, the Company had one outstanding forward contract with a notional amount of $6.9 million and had recorded $15,000 other current liabilities associated with the outstanding forward contract.

10. COMMITMENTS AND CONTINGENCIES

Leases

The Company leases administrative and sales offices and certain equipment under noncancelable operating leases, which contain various renewal options and, in some cases, require payment of common area costs, taxes and utilities. These operating leases expire at various times through 2024. Rent expense was $0.6 million for the both three months ended September 30, 2017 and 2016, respectively. Rent expense was $1.6 million and $1.7 million for the nine months ended September 30, 2017 and 2016.

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Future minimum lease payments under noncancelable operating leases at September 30, 2017, are as follows (in thousands):

Period Ending September 30,	**Amount**
2017 (remaining three months)	$ 544
2018	1,757
2019	532
2020	444
2021	360
2022 and thereafter	126
Total future minimum lease payments	$ 3,763

Indemnifications — The Company generally provides a warranty to its customers that its software will perform substantially in accordance with documented specifications typically for a period of 90 days following delivery of its products. The Company also indemnifies certain customers from third-party claims of intellectual property infringement relating to the use of its products. Historically, costs related to these guarantees have not been significant. The Company is unable to estimate the maximum potential impact of these guarantees on its future results of operations.

Purchase obligations — The Company has purchase obligations with certain suppliers for the purchase of goods and services entered in the ordinary course of business. As of September 30, 2017, total outstanding purchase obligations were $8.3 million, which are primarily due within the next 12 months.

Indemnification of Officers and Directors — As permitted by the Delaware general corporation law, the Company has included a provision in its certificate of incorporation to eliminate the personal liability of its officers and directors for monetary damages for breach or alleged breach of their fiduciary duties as officers or directors, other than in cases of fraud or other willful misconduct.

In addition, the Bylaws of the Company provide that the Company is required to indemnify its officers and directors even when indemnification would otherwise be discretionary, and the Company is required to advance expenses to its officers and directors as incurred in connection with proceedings against them for which they may be indemnified. The Company has entered into indemnification agreements with its officers and directors containing provisions that are in some respects broader than the specific indemnification provisions contained in the Delaware general corporation law. The indemnification agreements require the Company to indemnify its officers and directors against liabilities that may arise by reason of their status or service as officers and directors other than for liabilities arising from willful misconduct of a culpable nature, to advance their expenses incurred as a result of any proceeding against them as to which they could be indemnified, and to obtain directors' and officers' insurance if available on reasonable terms. The Company has obtained directors' and officers' liability insurance in amounts comparable to other companies of the Company's size and in the Company's industry. Since a maximum obligation of the Company is not explicitly stated in the Company's Bylaws or in its indemnification agreements and will depend on the facts and circumstances that arise out of any future claims, the overall maximum amount of the obligations cannot be reasonably estimated.

Litigation — From time to time, the Company is subject to various claims and legal proceedings that arise in the ordinary course of business. The Company accrues for losses related to litigation when a potential loss is probable and the loss can be reasonably estimated in accordance with FASB requirements. As of September 30, 2017, the Company was not party to any material legal proceedings, thus no loss was probable and no amount was accrued.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Forward-Looking Statements

The following discussion of our financial condition and results of operations contains 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. All statements other than statements of historical fact may be forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "may," "could," "should," "expect," "plan," "anticipate," "beli "estimate," "predict," "potential", "target" or "continue," the negative effect of terms like these or other similar expressions. An statement concerning future financial performance (including future revenues, earnings or growth rates), ongoing business strategies or prospects, and possible actions taken by us or our subsidiaries, which may be provided by us are also forward-looking statements. These forward-looking statements are only predictions. Forward-looking statements are based on current expectations and projections about future events and are inherently subject to a variety of risks and uncertainties, many of which are beyond our control, which could cause actual results to differ materially from those anticipated or projected. All forward-looking statements included in this document are based on information available to us on the date of filing and we further caution investors that our business and financial performance are subject to substantial risks and uncertainties. We assume no obligation to update any such forward-looking statements. In evaluating these statements, you should specifically consider various factors, including the risk factors set forth in Item 1. "Business" and Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the year ended December 31, 2016, filed with the Securities and Exchange Commission on March 8, 2017. All references to "we", "us", "our", "PDF", "PDF Solutions" or "the Company" refer to PDF Solutions, Inc.

Overview

We analyze our customers' IC design and manufacturing processes to identify, quantify, and correct the issues that cause yield loss to improve our customers' profitability by improving time-to-market, increasing yield and reducing total design and manufacturing costs. We package our solutions in various ways to meet our customers' specific business and budgetary needs, each of which provides us various revenue streams. We receive a mix of fixed fees and variable, performance-based fees for the vast majority of our yield improvement solutions. The fixed fees are typically reflective of the length of time and the resources needed to characterize a customer's manufacturing process and receive preliminary results of proposed yield improvement suggestions. The variable fee, or what we call Gainshare, usually depends on our achieving certain yield targets by a deadline. Variable fees are currently typically tied to wafer volume on the node size of the manufacturing facility where we performed the yield improvement solutions. We receive license fees and service fees for related installation, integration, training, and maintenance and support services for our software that we license on a stand-alone basis.

Industry Trend

Consistent with the trend since 2010, we expect that the largest logic foundries will continue to invest significantly in leading edge nodes and capacity throughout 2018. Leading foundries continue to invest in new technologies such as multi-patterned lithography and 3-D transistor architecture. In addition, China's investment in semiconductors should continue to increase the industry production capacity over the next few years. These provide opportunities to portentially increase our business.

Capacity utilization for 28nm logic thus far in 2017 has been lower overall, and mixed across foundries. We believe that industry 28nm utilization will increase during the coming quarters. 14nm logic production is also expected to increase during the coming quarters. We expect our Gainshare results to be consistent with those general market trends. Gainshare revenue will continue to fluctuate quarter to quarter despite these utilization trends as our Gainshare revenue depends on many factors, including the average selling price of wafers subject to Gainshare and volume.

Generally, the demand for consumer electronics, communications devices, and datacenters, are driving technological innovation in the semiconductor industry as the need for products with greater performance, lower power consumption, reduced costs and smaller size continues to grow with each new product generation. In addition, advances in computing systems and mobile devices have fueled demand for higher capacity memory chips. To meet these demands, IC manufacturers and designers are constantly challenged to improve the overall performance of their ICs by designing and manufacturing ICs with more embedded applications to create greater functionality while lowering cost per transistor. As a result, both logic and memory manufacturers have migrated to more and more advanced manufacturing nodes, capable of integrating more devices with higher performance, higher density, and lower power. As this trend continues, companies will continually be challenged to improve process capabilities to optimally produce ICs with minimal random and systematic yield loss, which is driven by the lack of compatibility between the design and its respective manufacturing process. We believe that as volume production of deep submicron ICs continues to grow, the difficulties of integrating IC designs with their respective processes and ramping new manufacturing processes will create a greater need for products and services like ours that address the yield loss and escalating cost issues the semiconductor industry is facing today and will face in the future.

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Customer Contracts

Although a substantial portion of our total revenues are concentrated in a small number of customers, the total revenues for each of these customers in any period is the result of Design-to-silicon-yield solutions and Gainshare performance incentives revenues recognized in the period under multiple, separate contracts, with no interdependent performance obligations. These contracts were all entered into in the ordinary course of our business and contain general terms and conditions that are standard across most of our yield improvement solutions customers, including providing services typically targeted to one manufacturing process node, for example the 28 or 20 nanometer node. Fluctuations in future results may occur if any of these customers renegotiate pre-existing contractual commitments due to adverse changes in their own business. See the additional discussion in Part I, Item 1, “Customers,” on page 9 of our Annual Report on Form 10-K for the year ended December 31, 2016, and in Item 1A, “Risk Factors,” on pages 13 through 20 of our Annual Report on Form 10-K for the year ended December 31, 2016, for related information on the risks associated with customer concentration and Gainshare performance incentives revenue.

Financial Highlights

Financial highlights for the three months ended September 30, 2017, were as follows:

- Total revenues for the three months ended September 30, 2017, were $26.5 million, a decrease of $0.7 million, or 3%, compared to $27.3 million for the three months ended September 30, 2016. Design-to-silicon-yield solutions revenue for the three months ended September 30, 2017, was $19.2 million, an increase of $0.7 million, or 4%, when compared to Design-to-silicon yield solutions revenue of $18.6 million for the three months ended September 30, 2016. The increase in Design-to-silicon-yield solutions was primarily due to an increase in the revenue from our Design-For-Inspection (“DFI”) solution and from our Exensio big data solution, offset by a decrease in the revenue from our yield ramp solution. Gainshare performance incentives revenue for the three months ended September 30, 2017, was $7.3 million, a decrease of $1.4 million, or 16%, compared to $8.7 million for the three months ended September 30, 2016. The decrease in revenue from Gainshare performance incentives was primarily the result of Gainshare period ending on an older 28nm node.

- Net income for the three months ended September 30, 2017 was $0.6 million, compared to $2.0 million for the three months ended September 30, 2016. The decrease in net income was primarily attributable to a $1.7 million decrease in gross margin due to the decrease in Gainshare performance incentive revenue and a $1.0 million increase in operating expense, primarily driven by the continued activity related to our development of our DFI solution, partially offset by a $1.3 million decrease in tax provision primarily due to the recognition of excess tax benefits related to employee stock compensation as a result of the adoption of ASU 2016-09 as well as the decrease in level of income.

- Net income per basic and diluted share was $0.02 for the three months ended September 30, 2017, as compared to $0.06 for the three months ended September 30, 2016.

Financial highlights for the nine months ended September 30, 2017, were as follows:

- Total revenues for the nine months ended September 30, 2017, were $75.1 million, a decrease of $3.9 million, or 5%, compared to $79.0 million for the nine months ended September 30, 2016. Design-to-silicon-yield solutions revenue for the nine months ended September 30, 2017, was $55.4 million, a decrease of $2.3 million, or 4%, when compared to Design-to-silicon yield solutions revenue of $57.7 million for the nine months ended September 30, 2016. The decrease in Design-to-silicon-yield solutions was primarily due to the decrease in revenue from our yield ramp engagement not fully offset by the increase in revenue from our DFI solution and our Exensio big data solution. Gainshare performance incentives revenue for the nine months ended September 30, 2017, was $19.7 million, a decrease of $1.7 million, or 8%, compared to $21.3 million for the nine months ended September 30, 2016. The decrease in revenue from Gainshare performance incentives was primarily the result of the Gainshare period ending on an older 28nm node, partially offset by higher Gainshare revenues from a new 28nm customer and from the 14nm nodes.

- Net income for the nine months ended September 30, 2017, was $1.3 million, compared to $6.2 million for the nine months ended September 30, 2016. The decrease in net income was primarily attributable to a $6.9 million decrease in gross margin primarily due to the decrease in revenues, and a $4.0 million increase in operating expense, primarily driven by the continued activity related to our development of our DFI solution, partially offset by a $5.9 million decrease in tax provision primarily due to the recognition of excess tax benefits related to employee stock compensation as a result of the adoption of ASU 2016-09 as well as the decrease in level of income.

- Net income per basic and diluted share was $0.04 for the nine months ended September 30, 2017, compared to $0.20 and $0.19, respectively, for the nine months ended September 30, 2016.

Critical Accounting Policies

There were no significant changes in our critical accounting policies. Please refer to Management's Discussion and Analysis of Financial Condition and Results of Operations contained in Part II, Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2016. The following is a brief discussion of the more significant accounting policies and methods that we use.

General

Our discussion and analysis of our financial conditions, results of operations and cash flows are based on our consolidated financial statements, which have been prepared in conformity with accounting principles generally accepted in the United States of America. Our preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the dates of the financial statements and the reported amounts of revenues and expenses during the reporting periods. We based our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. The most significant estimates and assumptions relate to revenue recognition, stock-based compensation and the realization of deferred tax assets. Actual amounts may differ from such estimates under different assumptions or conditions.

Revenue Recognition

We derive revenues primarily from two sources: Design-to-silicon-yield Solutions and Gainshare performance incentives.

Design-to-silicon-yield solutions — Revenues that are derived from Design-to-silicon-yield solutions come from services and software and hardware licenses. We recognize revenue for each element of Design-to-silicon-yield solutions as follows:

We generate a significant portion of our Design-to-silicon-yield solutions revenue from fixed-price solution implementation service contracts delivered over a specific period of time. These contracts require reliable estimation of costs to perform obligations and the overall scope of each engagement. Revenue under project–based contracts for solution implementation services is recognized as services are performed using percentage of completion method of contract accounting based on costs or labor-hours input method, whichever is the most appropriate measure of the progress towards completion of the contract. Losses on fixed-price solution implementation contracts are recognized in the period when they become probable. Revisions in profit estimates are reflected in the period in which the conditions that require the revisions become known and can be estimated. Revenue under time and materials contracts for solution implementation services are recognized as the services are performed.

On occasion, we license our software products as a component of our fixed-price service contracts. In such instances, the software products are licensed to customers over a specified term of the agreement with support and maintenance to be provided, if applicable, over the license term. The amount of product and service revenue recognized in a given period is affected by the Company’s judgment as to whether an arrangement includes multiple deliverables and, if so, our determination of the fair value of each deliverable. In general, vendor-specific objective evidence of selling price (“VSOE”) does not exist for our solution implementation services and software products and because our services and products include our unique technology, we are not able to determine third-party evidence of selling price (“TPE”). Therefore, in such circumstances we use best estimated selling prices (“BESP”) in the allocation of arrangement consideration. In determining BESP, we apply significant judgment as we weigh a variety of factors, based on the facts and circumstances of the arrangement. We typically arrive at BESP for a product or service that is not sold separately by considering company-specific factors such as geographies, internal costs, gross margin objectives, pricing practices used to establish bundled pricing, and existing portfolio pricing and discounting. After fair value is established for each deliverable, the total transaction amount is allocated to each deliverable based upon its relative selling price. Fees allocated to solution implementation services are recognized using the percentage of completion method of contract accounting. Fees allocated to software and related support and maintenance are recognized under software revenue recognition guidance.

In some instances, we also license our DFI system as a separate component of fixed-price service contracts. We allocate revenue to all deliverables based on their relative selling prices. We currently do not have VSOE for our DFI system, thus we use either TPE or BESP in the allocation of arrangement consideration.

We defer certain pre-contract costs incurred for specific anticipated contracts. Deferred costs consist primarily of direct costs to provide solution implementation services in relation to the specific anticipated contracts. We recognize such costs as a component of cost of revenues, the timing of which is dependent upon persuasive evidence of contract arrangement assuming all other revenue recognition criteria are met. We also defer costs from arrangements that required us to defer the revenues, typically due to revenue recognition from multi-element arrangements or from contracts subject to customer acceptance. These costs are recognized in proportion to the related revenue. At the end of reporting period, we evaluate its deferred costs for their probable recoverability. We recognize impairment of deferred costs when it is determined that the costs no longer have future benefits and are no longer recoverable.

We also license our software products separately from solution implementations. For software license arrangements that do not require significant modification or customization of the underlying software, software license revenue is recognized under the residual method when (l) persuasive evidence of an arrangement exists, (2) delivery has occurred, (3) the fee is fixed or determinable, (4) collectability is probable, and (5) the arrangement does not require services that are essential to the functionality of the software. When arrangements include multiple elements such as support and maintenance, consulting (other than for our fixed price solution implementations), installation, and training, revenue is allocated to each element of a transaction based upon its fair value as determined by our VSOE and such services are recorded as services revenue. VSOE for maintenance is generally established based upon negotiated renewal rates while VSOE for consulting, installation, and training services is established based upon the our customary pricing for such services when sold separately. When software is licensed for a specified term, fees for support and maintenance are generally bundled with the license fee over the entire term of the contract. We are unable to establish VSOE of fair value for maintenance services that are generally bundled with term licenses. In these cases, we recognize revenue ratably over the term of the contract. For multiple-element arrangements containing non-software services, the Company: (1) determines whether each element constitutes a separate unit of accounting; (2) determines the fair value of each element using the selling price hierarchy of VSOE, TPE or BESP, as applicable; and (3) allocates the total price to each separate unit of accounting based on the relative selling price method. An element constitutes a separate unit of accounting when the delivered item has standalone value and delivery of the undelivered element is probable and within our control. For multiple-element arrangements that contain both software and non-software elements, we allocate revenue to software or software-related elements as a group and any non-software elements separately based on the selling price hierarchy of VSOE, TPE or BESP. Once revenue is allocated to software or software-related elements as a group, we recognize revenue in conformance with software revenue accounting guidance. Revenue is recognized when revenue recognition criteria are met for each element.

Revenue from software-as-a-service (or SaaS) that allow for the use of a hosted software product or service over a contractually determined period of time without taking possession of software are accounted for as subscriptions and recognized as revenue ratably over the coverage period beginning on the date the service is made available to customers. Revenue for software licenses with extended payment terms is not recognized in excess of amounts due. For software license arrangements that require significant modification or customization of the underlying software, the software license revenue is recognized as services are performed using the percentage of completion method of contract accounting, and such revenue is recorded as services revenue.

Deferred revenues consist substantially of amounts invoiced in advance of revenue recognition and is recognized as the revenue recognition criteria are met. Deferred revenues that will be recognized during the succeeding 12 month period is recorded as current deferred revenues and the remaining portion is recorded as non- current deferred revenues.

Gainshare Performance Incentives — When we enter into a contract to provide yield improvement services, the contract usually includes two components: (1) a fixed fee for performance by us of services delivered over a specific period of time; and (2) a Gainshare performance incentive component where the customer may pay a contingent variable fee, usually after the fixed fee period has ended. Revenue derived from Gainshare performance incentives represents profit sharing and performance incentives earned contingent upon our customers reaching certain defined operational levels established in related solution implementation service contracts. Gainshare performance incentives periods are usually subsequent to the delivery of all contractual services and therefore have virtually no cost to us. Due to the uncertainties surrounding attainment of such operational levels, we recognize Gainshare performance incentives revenue (to the extent of completion of the related solution implementation contract) upon receipt of performance reports or other related information from the customer supporting the determination of amounts and probability of collection.

Stock-Based Compensation

Stock-based compensation is estimated at the grant date based on the award’s fair value and is recognized on a straight-line basis over the vesting periods, generally four years. As stock-based compensation expense recognized is based on awards ultimately expected to vest, it has been reduced for estimated forfeitures. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

We have elected to use the Black-Scholes-Merton option-pricing model, which incorporates various assumptions including volatility, expected life and interest rates. The expected volatility is based on the historical volatility of our common stock over the most recent period commensurate with the estimated expected life of stock options. The expected life of an award is based on historical experience and on the terms and conditions of the stock awards granted to employees. The interest rate assumption is based upon observed Treasury yield curve rates appropriate for the expected life of stock options.

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Income Taxes

We are required to assess the likelihood that our deferred tax assets will be recovered from future taxable income and if we believe that they are not likely to be realizable before the expiration dates applicable to such assets then, to the extent we believe that recovery is not likely, establish a valuation allowance. Changes in the net deferred tax assets, less offsetting valuation allowance, in a period are recorded through the income tax provision (benefit) in the condensed consolidated statements of operations. The valuation allowance was approximately $7.5 million and $6.8 million as of September 30, 2017 and December 31, 2016, respectively, which was related to California R&D tax credits and California net operating losses related to an acquisition that we currently do not believe to be more likely than not to be ultimately realized. If we conclude at a future financial reporting period that there has been a change in our ability to realize our California R&D credit and net operating loss carry forward deferred tax assets, and it is at such time no longer "more–likely-than-not" that we will realize the tax credits before applicable expiration dates, our tax provision will increase in the period in which we make such determination.

Our income tax calculations are based on application of the respective U.S. federal, state or foreign tax law. Our tax filings, however, are subject to audit by the respective tax authorities. Accordingly, we recognize tax liabilities based upon our estimate of whether, and the extent to which, additional taxes will be due when such estimates are more-likely-than-not to be sustained. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained. To the extent the final tax liabilities are different than the amounts originally accrued, the increases or decreases are recorded as income tax expense or benefit in the consolidated statements of operations. At September 30, 2017, no deferred taxes have been provided on undistributed earnings of approximately $6.7 million from the Company's international subsidiaries since these earnings have been, and under current plans will continue to be, permanently reinvested outside the United States. It is not practicable to determine the amount of the unrecognized tax liability at this time.

Software Development Costs

Internally developed software includes software developed to meet our internal needs to provide solution implementation services to our end-customers. These capitalized costs consist of internal compensation related costs and external direct costs incurred during the application development stage and are amortized over their useful lives, generally six years. The costs to develop software that is marketed externally have not been capitalized as we believe our current software development process is essentially completed concurrent with the establishment of technological feasibility. As such, all related software development costs are expensed as incurred and included in research and development expense in our consolidated statements of operations.

Goodwill and Intangible Assets

We record goodwill when the purchase consideration of an acquisition exceeds the fair value of the net tangible and identified intangible assets as of the date of acquisition. We perform an annual impairment assessment of goodwill during the fourth quarter of each calendar year or more frequently if required to determine if any events or circumstances exist, such as an adverse change in business climate or a decline in the overall industry demand, that would indicate that it would more likely than not reduce the fair value of a reporting unit below its carrying amount, including goodwill. If events or circumstances do not indicate that the fair value of a reporting unit is below its carrying amount, then goodwill is not considered to be impaired and no further testing is required. If further testing is required, we perform a two-step process. The first step involves comparing the fair value of its reporting unit to its carrying value, including goodwill. If the carrying value of the reporting unit exceeds its fair value, the second step of the test is performed by comparing the carrying value of the goodwill in the reporting unit to its implied fair value. An impairment charge is recognized for the excess of the carrying value of goodwill over its implied fair value. For the purpose of impairment testing, we have determined that we have one reporting unit. There was no impairment of goodwill for the period ended September 30, 2017.

Our long-lived assets, excluding goodwill, consist of property and equipment and intangible assets. We periodically review our long-lived assets for impairment. For assets to be held and used, we initiate our review whenever events or changes in circumstances indicate that the carrying amount of a long-lived asset group may not be recoverable. Recoverability of an asset group is measured by comparison of its carrying amount to the expected future undiscounted cash flows that the asset group is expected to generate. If it is determined that an asset group is not recoverable, an impairment loss is recorded in the amount by which the carrying amount of the asset group exceeds its fair value. During the three months ended September 30, 2017, there was no impairment related to our long-lived assets.

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Recent Accounting Pronouncements and Accounting Changes

See Note 2 of “Notes to Condensed Consolidated Financial Statements (Unaudited)” of this Quarterly Report on Form 10-Q for a description of recent accounting pronouncements and accounting changes, including the expected dates of adoption and estimated effects, if any, on our consolidated financial statements.

Results of Operations

The following table sets forth, for the periods indicated, the percentage of total revenues represented by the line items reflected in our condensed consolidated statements of operations:

	Three Months Ended September 30,		**Nine Months Ended September 30,**	
	2017	**2016**	**2017**	**2016**
Revenues:				
Design-to-silicon-yield solutions	72 %	68 %	74 %	73 %
Gainshare performance incentives	28	32	26	27
Total revenues	100 %	100 %	100 %	100 %
Costs of design-to-silicon-yield solutions	47	42	47	41
Amortization of acquired technology	—	—	—	—
Total cost of design-to-silicon-yield solutions	47	42	47	41
Gross profit	53	58	53	59
Operating expenses:				
Research and development	30	26	30	26
Selling, general and administrative	22	21	24	20
Amoritization of other acquired intangible assets	—	—	—	—
Total operating expenses	52	47	54	46
Income (loss) from operations	1	11	(1)	13
Interest and other income (expense), net	—	—	—	—
Income (loss) before taxes	1	11	(1)	13
Income tax provision (benefit)	(1)	4	(3)	5
Net income	2 %	7 %	2 %	8 %

Comparison of the Three Months Ended September 30, 2017 and 2016

Revenues	**Three Months Ended September 30, 2017**	**2016**	**Change**	**% Change**
(in thousands, except for percentages)				
Design-to-silicon-yield solutions	$19,229	$18,552	$677	4 %
Gainshare performance incentives	7,288	8,707	(1,419)	(16)%
Total revenues	$26,517	$27,259	$(742)	(3)%

Design-to-silicon-yield solutions. Design-to-silicon-yield solutions revenue is derived from services (including services from yield solutions, design for inspection solutions, software support and maintenance, consulting, and training) and software and or system licenses, provided during our customer engagements as well as during solution product sales. Design-to-silicon-yield solutions revenue increased $0.7 million for the three months ended September 30, 2017, compared to the three months ended September 30, 2016. The increase in Design-to-silicon-yield solutions was primarily due to an increase in the revenue from our Design-For-Inspection solution and from our Exensio big data solution, offset by the decrease in the revenue from our yield ramp solution. Our Design-to-silicon-yield solutions revenue may fluctuate in the future and is dependent on a number of factors, including the semiconductor industry's continued acceptance of our solutions, the timing of purchases by existing and new customers, and our ability to attract new customers and penetrate new markets, and further penetration of our current customer base. Fluctuations in future results may also occur if any of our significant customers renegotiate pre-existing contractual commitments due to adverse changes in their own business or, in the case of a time and materials contract, may take advantage of contractual provisions that permit the suspension of contracted work for a period if their business experiences a financial hardship.

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Gainshare Performance Incentives. Gainshare performance incentives revenues represent profit sharing and performance incentives earned contingent upon our customers reaching certain defined operational levels. Revenue derived from Gainshare performance incentives decreased $1.4 million for the three months ended September 30, 2017, compared to the three months ended September 30, 2016. The decrease was primarily the result of the Gainshare period ending on an older 28nm node. Our Gainshare performance incentives revenue may continue to fluctuate from period to period. Gainshare performance incentives revenue is dependent on many factors that are outside our control, including among others, continued production of ICs by our customers at facilities at which we generate Gainshare, sustained yield improvements by our customers, and our ability to enter into new Design-to-silicon-yield solutions contracts containing Gainshare performance incentives.

Costs of Design-to-silicon-yield solutions	**Three Months Ended September 30, 2017**	**2016**	**Change**	**% Change**	
(in thousands, except for percentages)					
Direct costs of Design-to-silicon-yield solutions	$12,295	$11,366	$ 929	8	%
Amortization of acquired technology	136	86	50	58	%
Total costs of Design-to-silicon-yield solutions	$12,431	$11,452	$ 979	9	%

Costs of Design-to-silicon-yield solutions. Costs of Design-to-silicon-yield solutions consist of costs incurred to provide and support our services, costs recognized in connection with licensing our software, and amortization of acquired technology. Direct costs of Design-to-silicon-yield solutions consist of service and software licenses costs. Service costs consist of material, employee compensation and related benefits, overhead costs, travel and facilities-related costs. Software license costs consist of costs associated with licensing third-party software used by the Company in providing services to our customers in solution engagements, or sold in conjunction with our software products. Direct costs of Design-to-silicon-yield solutions increased $0.9 million for the three months ended September 30, 2017, compared to the three months ended September 30, 2016, primarily due to a $0.5 million net change in the deferred cost related to timing of completion of the contract signature process, a $0.3 million increase in personnel-related cost driven by world-wide merit increases, and a $0.3 million increase in depreciation expense of test equipment, partially offset by a $0.2 million decrease in subcontractor expense. Amortization of acquired technology for the three months ended September 30, 2017 and 2016 slightly increased due to the amortization of acquired technology from the Kinesys acquisition.

Research and Development	**Three Months Ended September 30 2017**	**2016**	**Change**	**% Change**	
(in thousands, except for percentages)					
Research and development	$7,875	$7,017	$ 858	12	%

Research and Development. Research and development expenses consist primarily of personnel-related costs to support product development activities, including compensation and benefits, outside development services, travel, facilities cost allocations, and stock-based compensation charges. Research and development expenses increased $0.9 million for the three months ended September 30, 2017, compared to the three months ended September 30, 2016, primarily due to a $0.1 million increase in personnel-related expense due to world-wide merit increases, a $0.1 million increase in facilities expense, and a $0.6 million increase in subcontractor expense. The increased investment in research and development is primarily driven by continued development activity related to our DFI solution. We anticipate our expenses in research and development will fluctuate in absolute dollars from period to period as a result of cost control initiatives and the timing of product development projects and revenue generating activity requirements.

Selling, General and Administrative	**Three Months Ended September 30, 2017**	**2016**	**$ Change**	**% Change**
(in thousands, except for percentages)				
Selling, general and administrative	$5,680	$5,548	$ 132	2 %

Selling, General and Administrative. Selling, general and administrative expenses consist primarily of compensation and benefits for sales, marketing and general and administrative personnel, legal and accounting services, marketing communications, travel and facilities cost allocations, and stock-based compensation charges. Selling, general and administrative expenses increased $0.1 million for the three months ended September 30, 2017, compared to the three months ended September 30, 2016, primarily due to a $0.1 million increase in personnel-related expense due to world-wide merit increases and hiring of an executive, a $0.1 million increase in accounting and legal expense, partially offset by a $0.1 million decrease in subcontractor expense. We anticipate our selling, general and administrative expenses will fluctuate in absolute dollars from period to period as a result of cost control initiatives and to support increased selling efforts in the future.

Amortization of Other Acquired Intangible Assets. Amortization of other acquired intangible assets consists of amortization of intangibles acquired as a result of certain business combinations. The amortization of other acquired intangible assets for the three months ended September 30, 2017 remained flat at $0.1 million compared to the three months ended September 30, 2016.

Interest and Other Income (expense), net. The interest and other income (expense) for the three months ended September 30, 2017 remained flat at $0.1 million expense compared to the three months ended September 30, 2016.

Income Tax Provision (benefit)	**Three Months Ended September 30, 2017**	**2016**	**$ Change**	**% Change**
(in thousands, except for percentages)				
Income tax provision (benefit)	$(270)	$1,051	$(1,321)	(126)%

Income Tax Provision (benefit). The decrease in income tax provision (benefit) from $1.1 million expense for the three months ended September 30, 2016 to $0.3 million benefit for the three months ended September 30, 2017 was primarily due to the increase in excess tax benefits related to employee stock compensation as well as the decrease in income.

Comparison of the Nine Months Ended September 30, 2017 and 2016

Revenues	**Nine Months Ended September 30, 2017**	**2016**	**$ Change**	**% Change**
(In thousands, except for percentages)				