UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2018

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: 001-38324

Casa Systems, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**75-3108867**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
100 Old River Road Andover, Massachusetts (Address of principal executive offices)	**01810 (Zip Code)**

Registrant's telephone number, including area code: (978) 688-6706

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth 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, indicate 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 ☒

As of April 30, 2018, the registrant had 82,373,785 shares of common stock, $0.001 par value per share, issued and outstanding.

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Cautionary Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements other than statements of historical fact contained in this Quarterly Report on Form 10-Q, including statements regarding our future results of operations and financial position, business strategy and plans and objectives of management for future operations, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as "may," "might," "should," "expects," "plans," "anticipates," "would," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential" or "continue" or the negative of these terms or other similar expressions. The forward-looking statements in this Quarterly Report on Form 10-Q are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. These forward-looking statements speak only as of the date of this Quarterly Report on Form 10-Q and are subject to a number of risks, uncertainties and assumptions described in the "Risk Factors" section and elsewhere in this Quarterly Report on Form 10-Q. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Some of the key factors that could cause actual results to differ from our expectations include:

- our ability to anticipate technological shifts;
- our ability to generate positive returns on our research and development;
- changes in the rate of broadband service providers' deployment of, and investment in, ultra-broadband network capabilities;
- the lack of predictability of revenue due to lengthy sales cycles and the volatility in capital expenditure budgets of broadband service providers;
- our ability to maintain and expand gross profit and net income;
- the sufficiency of our cash resources and needs for additional financing;
- our ability to further penetrate our existing customer base and obtain new customers;
- changes in our pricing policies, whether initiated by us or as a result of competition;
- the amount and timing of operating costs and capital expenditures related to the operation and expansion of our business;
- the actual or rumored timing and success of new product and service introductions by us or our competitors or any other change in the competitive landscape of our industry, including consolidation among our competitors or customers;
- our ability to successfully expand our business domestically and internationally;
- insolvency or credit difficulties confronting our customers, which could adversely affect their ability to purchase or pay for our products and services, or confronting our key suppliers, which could disrupt our supply chain;
- our inability to fulfill our customers' orders due to supply chain delays, access to key commodities or technologies or events that impact our manufacturers or their suppliers;
- future accounting pronouncements or changes in our accounting policies;
- stock-based compensation expense;
- the cost and possible outcomes of any potential litigation matters;
- our overall effective tax rate, including impacts caused by the relative proportion of foreign to U.S. income, the amount and timing of certain employee stock-based compensation transactions, changes in the valuation of our deferred tax assets and any new legislation or regulatory developments;

- increases or decreases in our expenses caused by fluctuations in foreign currency exchange rates;
- general economic conditions, both domestically and in foreign markets;
- our ability to obtain and maintain intellectual property protection for our products; and
- our use of proceeds from our initial public offering.

Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events or otherwise.

PART I—FINANCIAL INFORMATION
Item 1. Condensed Consolidated Financial Statements (Unaudited)

CASA SYSTEMS, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except per share amounts)
(Unaudited)

	March 31, 2018	December 31, 2017
Assets		
Current assets:		
Cash and cash equivalents	$ 307,095	$ 260,820
Accounts receivable, net of provision for doubtful accounts of $692 as of March 31, 2018 and December 31, 2017	88,866	122,634
Inventory	29,354	36,148
Prepaid expenses and other current assets	3,920	5,151
Prepaid income taxes	1,811	538
Total current assets	431,046	425,291
Property and equipment, net	29,166	29,363
Accounts receivable, net of current portion	4,326	4,710
Deferred tax assets	8,719	9,718
Other assets	612	615
Total assets	$ 473,869	$ 469,697
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 14,741	$ 15,833
Accrued expenses and other current liabilities	34,920	48,250
Accrued income taxes	1,818	118
Deferred revenue	27,820	34,224
Current portion of long-term debt, net of unamortized debt issuance costs	2,161	2,156
Total current liabilities	81,460	100,581
Accrued income taxes, net of current portion	9,085	8,810
Deferred revenue, net of current portion	16,576	14,691
Long-term debt, net of current portion and unamortized debt issuance costs	294,915	295,459
Total liabilities	402,036	419,541
Commitments and contingencies (Note 15)		
Stockholders' equity:		
Preferred stock, $0.001 par value; 5,000 shares authorized as of March 31, 2018 and December 31, 2017; no shares issued and outstanding as of March 31, 2018 and December 31, 2017	—	—
Common stock, $0.001 par value; 500,000 shares authorized as of March 31, 2018 and December 31, 2017; 81,801 and 81,043 shares issued and outstanding as of March 31, 2018 and December 31, 2017, respectively	82	81
Additional paid-in capital	131,536	128,798
Accumulated other comprehensive income	1,356	194
Accumulated deficit	(61,141)	(78,917)
Total stockholders' equity	71,833	50,156
Total liabilities and stockholders' equity	$ 473,869	$ 469,697

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

CASA SYSTEMS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME
(in thousands, except per share amounts)
(Unaudited)

	Three Months Ended March 31, 2018	Three Months Ended March 31, 2017
Revenue:		
Product	$ 80,189	$ 65,209
Service	8,885	7,520
Total revenue	89,074	72,729
Cost of revenue:		
Product	25,780	19,132
Service	1,339	1,257
Total cost of revenue	27,119	20,389
Gross profit	61,955	52,340
Operating expenses:		
Research and development	20,530	14,468
Sales and marketing	11,268	10,080
General and administrative	7,188	4,995
Total operating expenses	38,986	29,543
Income from operations	22,969	22,797
Other income (expense):		
Interest income	1,095	504
Interest expense	(4,672)	(4,193)
Gain (loss) on foreign currency, net	(24)	30
Other income, net	201	119
Total other income (expense), net	(3,400)	(3,540)
Income before provision for income taxes	19,569	19,257
Provision for income taxes	1,793	1,103
Net income	17,776	18,154
Other comprehensive income—foreign currency translation adjustment	1,162	239
Comprehensive income	$ 18,938	$ 18,393
Net income attributable to common stockholders:		
Basic	$ 17,776	$ 7,588
Diluted	$ 17,776	$ 8,643
Net income per share attributable to common stockholders:		
Basic	$ 0.22	$ 0.23
Diluted	$ 0.19	$ 0.20
Weighted-average shares used to compute net income per share attributable to common stockholders:		
Basic	81,629	33,618
Diluted	93,594	43,299

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

CASA SYSTEMS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands)
(Unaudited)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balances at January 1, 2018	81,043	$ 81	$ 128,798	$ 194	$ (78,917)	$ 50,156
Exercise of stock options and common stock issued upon vesting of equity awards	758	1	674	—	—	675
Foreign currency translation adjustment, net of tax of $0	—	—	—	1,162	—	1,162
Stock-based compensation	—	—	2,064	—	—	2,064
Net income	—	—	—	—	17,776	17,776
Balances at March 31, 2018	81,801	$ 82	$ 131,536	$ 1,356	$ (61,141)	$ 71,833

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

CASA SYSTEMS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)
(Unaudited)

	Three Months Ended March 31,	
	2018	2017
Cash flows from operating activities:		
Net income	$ 17,776	$ 18,154
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	2,302	1,728
Stock-based compensation	4,230	1,900
Deferred income taxes	1,040	1,815
Excess and obsolete inventory valuation adjustment	(1,043)	162
Changes in operating assets and liabilities:		
Accounts receivable	28,470	53,134
Inventory	7,713	(7,495)
Prepaid expenses and other assets	103	2,090
Prepaid income taxes	(1,273)	(4,441)
Accounts payable	1,644	(12,743)
Accrued expenses and other current liabilities	(7,162)	(10,000)
Accrued income taxes	1,969	(10,746)
Deferred revenue	(4,626)	(20,142)
Net cash provided by operating activities	51,143	13,416
Cash flows used in investing activities:		
Purchases of property and equipment	(2,539)	(1,858)
Net cash used in investing activities	(2,539)	(1,858)
Cash flows used in financing activities:		
Principal repayments of debt	(826)	(823)
Proceeds from exercise of stock options	675	40
Payments of dividends and equitable adjustments	(2,241)	(96,739)
Payments of initial public offering costs	(976)	(1,245)
Employee taxes paid related to net share settlement of equity awards	—	(3,788)
Net cash used in financing activities	(3,368)	(102,555)
Effect of exchange rate changes on cash and cash equivalents	1,039	65
Net increase (decrease) in cash and cash equivalents	46,275	(90,932)
Cash and cash equivalents at beginning of period	260,820	329,554
Cash and cash equivalents at end of period	$ 307,095	$ 238,622
Supplemental disclosures of cash flow information:		
Cash paid for interest	$ 4,291	$ 4,274
Cash paid for income taxes	$ 53	$ 14,320
Supplemental disclosures of non-cash operating, investing and financing activities:		
Purchases of property and equipment included in accounts payable	$ 287	$ 783
Prepaid expenses and other current assets included in accounts payable	$ 241	$ 77
Deferred offering costs included in accounts payable and accrued expenses and other current liabilities	$ 171	$ 375
Unpaid equitable adjustments included in accrued expenses and other current liabilities	$ 8,420	$ 10,770
Release of customer incentives included in accounts receivable and accrued expenses and other current liabilities	$ 5,754	$ 12,619

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

1. Nature of Business and Basis of Presentation

Casa Systems, Inc. (the “Company”) was incorporated under the laws of the State of Delaware on February 28, 2003. The Company is a global communications technology company headquartered in Andover, Massachusetts and has wholly owned subsidiaries in China, France, Canada, Ireland, Spain and the Netherlands.

The Company offers solutions for next-generation centralized, distributed and virtualized architectures for cable broadband, fixed-line broadband and wireless networks. The Company’s solutions enable customers to cost-effectively and dynamically increase network speed, add bandwidth capacity and new services for consumers and enterprises, reduce network complexity and reduce operating and capital expenditures.

The Company is subject to a number of risks similar to other companies of comparable size and other companies selling and providing services to the communications industry. These risks include, but are not limited to, the level of capital spending by the communications industry, a lengthy sales cycle, dependence on the development of new products and services, unfavorable economic and market conditions, competition from larger and more established companies, limited management resources, dependence on a limited number of contract manufacturers and suppliers, the rapidly changing nature of the technology used by the communications industry and reliance on resellers and sales agents. Failure by the Company to anticipate or to respond adequately to technological developments in its industry, changes in customer or supplier requirements, changes in regulatory requirements or industry standards, or any significant delays in the development or introduction of products could have a material adverse effect on the Company’s operating results, financial condition and cash flows.

In December 2017, the Company closed its initial public offering (“IPO”) of 6,900 shares of its common stock at an offering price of $13.00 per share, including 900 shares pursuant to the underwriters’ option to purchase additional shares of the Company’s common stock. The Company received net proceeds of $79,327, after deducting underwriting discounts and commissions of $6,279 and offering costs of $4,094. Upon the closing of the IPO, all 4,038 shares of the Company’s then-outstanding preferred stock automatically converted on a ten-for-one basis into an aggregate of 40,382 shares of the Company’s common stock. Upon conversion of the preferred stock, the Company reclassified $97,439 from temporary equity to additional paid-in capital and $40 from temporary equity to common stock.

The Company is an “emerging growth company,” as defined in the Jumpstart Our Business Startups Act of 2012 (the “JOBS Act”), and may remain an emerging growth company until the last day of the fiscal year following the fifth anniversary of the initial public offering, subject to specified conditions. The JOBS Act provides that an emerging growth company can take advantage of the extended transition period afforded by the JOBS Act for the implementation of new or revised accounting standards. The Company has elected not to “opt out” of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, the Company will adopt the new or revised standard at the time private companies adopt the new or revised standard, provided that the Company continues to be an emerging growth company. The JOBS Act provides that the decision to take advantage of the extended transition period for complying with new or revised accounting standards is irrevocable.

The accompanying condensed consolidated balance sheet as of March 31, 2018, the condensed consolidated statements of operations and comprehensive income for the three months ended March 31, 2018 and 2017, the condensed consolidated statements of cash flows for the three months ended March 31, 2018 and 2017 and the condensed consolidated statements of stockholders’ equity for the three months ended March 31, 2018 are unaudited. The financial data and other information disclosed in these notes related to the three months ended March 31, 2018 and 2017 are also unaudited. The accompanying condensed consolidated balance sheet as of December 31, 2017 was derived from the Company’s audited consolidated financial statements for the year ended December 31, 2017. The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States (“GAAP”) regarding interim financial reporting. Certain information and note disclosures normally included in the consolidated financial statements prepared in accordance with GAAP have been condensed or omitted. Therefore, these condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes included in the Company’s Annual Report on Form 10-K filed with the Securities and Exchange Commission (“SEC”) on March 7, 2018 (the “Annual Report on Form 10-K”). There have been no material changes to the Company’s accounting policies from those disclosed in the Annual Report on Form 10-K that would have a material impact on the Company’s condensed consolidated financial statements.

The unaudited interim condensed consolidated financial statements have been prepared on a basis consistent with that used to prepare the audited annual consolidated financial statements and, in the opinion of management, include all adjustments, consisting of only normal recurring adjustments, necessary for a fair statement of the financial position, results of operations and cash flows for the interim periods, but are not necessarily indicative of the results of operations and cash flows to be anticipated for the full year ending December 31, 2018 or any future period.

The accompanying condensed consolidated financial statements include the accounts and results of operations of the Company and its wholly owned subsidiaries. All intercompany transactions and balances have been eliminated in consolidation.

2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods.

Significant estimates and judgments relied upon by management in preparing these condensed consolidated financial statements include revenue recognition, provision for doubtful accounts, reserves for excess and obsolete inventory, valuation of inventory and deferred inventory costs, the expensing and capitalization of software-related research and development costs, amortization and depreciation periods, recoverability of net deferred tax assets, valuations of uncertain tax positions, provision for income taxes, warranty allowances, the valuation of the Company’s common stock and other equity instruments, and stock-based compensation expense.

Although the Company regularly reassesses the assumptions underlying these estimates, actual results could differ materially from these estimates. Changes in estimates are recorded in the period in which they become known. The Company bases its estimates on historical experience and various other assumptions that it believes to be reasonable under the circumstances existing at the time such estimates are made.

Accounts Receivable

Accounts receivable are presented net of a provision for doubtful accounts, which is an estimate of amounts that may not be collectible. Accounts receivable for arrangements with customary payment terms, which are one year or less, are recorded at invoiced amounts and do not bear interest. The Company generally does not require collateral, but the Company may, in certain instances based on its credit assessment, require full or partial prepayment prior to shipment.

For certain customers and/or for certain transactions, the Company provides extended payment arrangements to allow the customer to pay for the purchased equipment in monthly, other periodic or lump-sum payments over a period of one to five years. Certain of these arrangements are collateralized by the underlying assets during the term of the arrangement. Payments due beyond 12 months from the balance sheet date are recorded as non-current assets. In addition, amounts recorded as current and non-current accounts receivable for extended payment term arrangements at any balance sheet date have a corresponding amount recorded as deferred revenue because the Company defers the recognition of revenue for all extended payment term arrangements and only recognizes revenue to the extent of the payment amounts that become due from the customer.

Although there is no contractual interest rate for customer arrangements with extended payment terms, the Company imputes interest on the accounts receivable related to these arrangements and reduces the arrangement fee that will be recognized as revenue for the amount of the imputed interest, which is recorded as interest income over the payment term using the effective interest method. For the periods presented in the accompanying condensed consolidated financial statements, the impact of imputing interest on revenue and interest income was insignificant.

Accounts receivable as of March 31, 2018 and December 31, 2017 consisted of the following:

	March 31, 2018	December 31, 2017
Current portion of accounts receivable, net:		
Accounts receivable, net	$ 71,164	$ 106,114
Amounts due from related party (see Note 14)	15,067	13,367
Accounts receivable, extended payment arrangements	2,635	3,153
	88,866	122,634
Accounts receivable, net of current portion:		
Accounts receivable, extended payment arrangements	4,326	4,710
	$ 93,192	$ 127,344

The Company performs ongoing credit evaluations of its customers and, if necessary, provides a provision for doubtful accounts and expected losses. When assessing and recording its provision for doubtful accounts, the Company evaluates the age of its accounts receivable, current economic trends, creditworthiness of the customers, customer payment history, and other specific customer and transaction information. The Company writes off accounts receivable against the provision when it determines a balance is uncollectible and no longer actively pursues collection of the receivable. Adjustments to the provision for doubtful accounts are recorded as general and administrative expenses in the consolidated statements of operations and comprehensive income.

As of March 31, 2018 and December 31, 2017, the Company concluded that all amounts due under extended payment term arrangements were collectible and no reserve for credit losses was recorded. During the three months ended March 31, 2018 and 2017, the Company did not provide a reserve for credit losses and did not write off any uncollectible receivables due under extended payment term arrangements.

Concentration of Risks

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents and accounts receivable. Cash and cash equivalents consist of demand deposits, savings accounts, commercial paper, money market mutual funds, and certificates of deposit with financial institutions, which may exceed Federal Deposit Insurance Corporation limits. The Company has not experienced any losses related to its cash and cash equivalents and does not believe that it is subject to unusual credit risk beyond the normal credit risk associated with commercial banking relationships.

Significant customers are those that represent 10% or more of revenue or accounts receivable as set forth in the following table:

	Revenue		Accounts Receivable, Net	
	Three Months Ended March 31,		March 31,	December 31,
	2018	2017	2018	2017
Customer A	27%	13%	25%	44%
Customer B	18%	21%	16%	10%
Customer C	12%	*	11%	*
Customer D	*	*	*	17%
Customer E	*	14%	*	*

* Less than 10% of total

Customer B is a related party, Liberty Global Affiliates (see Note 14).

Certain of the components and subassemblies included in the Company's products are obtained from a single source or a limited group of suppliers. In addition, the Company primarily relies on two third parties to manufacture certain components of its products. Although the Company seeks to reduce dependence on those limited sources of suppliers and manufacturers, the partial or complete loss of certain of these sources could have a material adverse effect on the Company's operating results, financial condition and cash flows and damage its customer relationships.

Impact of Recently Issued Accounting Standards

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers (Topic 606)* ("ASU 2014-09"), which supersedes existing revenue recognition guidance under GAAP. The core principle of this standard is that an entity should recognize revenue to depict 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. In August 2015, the FASB issued ASU 2015-14, *Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date*, which delays the effective date of ASU 2014-09 such that the standard is effective for public companies for annual periods beginning after December 15, 2017 and for interim periods within those fiscal years. The standard is effective for private companies, and emerging growth companies that choose to take advantage of the extended transition periods, for annual reporting periods beginning after December 15, 2018. Entities are not permitted to adopt the standard earlier than the original effective date for public entities. This standard can be adopted either retrospectively to each prior reporting period presented or as a cumulative effect adjustment as of the date of adoption. In March 2016, the FASB issued ASU No. 2016-08, *Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations* ("ASU 2016-08"), which further clarifies the implementation guidance on principal versus agent considerations in ASU 2014-09. In April 2016, the FASB issued ASU No. 2016-10, *Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing* ("ASU 2016-10"), clarifying the implementation guidance on identifying performance obligations and licensing. In May 2016, the FASB issued ASU No. 2016-12, *Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients* ("ASU 2016-12"), which clarifies the objective of the collectibility criterion, presentation of taxes collected from customers, non-cash consideration, contract modifications at transition, completed contracts at transition and how guidance in ASU 2014-09 is retrospectively applied. ASU 2016-08, ASU 2016-10 and ASU 2016-12 have the same effective dates and transition requirements as ASU 2014-09. The Company continues to assess the potential impact that the adoption of ASU 2014-09, ASU 2016-08, ASU 2016-10 and ASU 2016-12 will have on its consolidated financial statements. Based on its assessment to date, the Company does expect that the adoption of this new accounting standard will impact the timing and amount of assets, liabilities, revenue and/or expenses recorded and the financial statement disclosures related to the Company's revenue from contracts with its customers. For example, the treatment of extended payment terms, contingent revenue elements, commissions and costs to obtain customer contracts may change under the new accounting standard. The Company is continuing to assess the impact of this new accounting standard and the expected adoption method. This assessment is subject to change, and the Company may identify other impacts on its consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, *Leases* ("ASU 2016-02"), which will require lessees to recognize most leases on their balance sheets as a right-of-use asset with a corresponding lease liability, and lessors to recognize a net lease investment. Additional qualitative and quantitative disclosures will also be required. The new guidance is effective for public companies for annual reporting periods beginning after December 15, 2018 and for interim periods within those fiscal years. The new guidance is effective for private companies, and emerging growth companies that choose to take advantage of the extended transition periods, for annual reporting periods beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020. Early application is permitted. The Company is currently assessing the potential impact that the adoption of ASU 2016-02 will have on its consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, *Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"). This guidance requires that financial assets measured at amortized cost be presented at the net amount expected to be collected. The measurement of expected credit losses is based on historical experience, current conditions and reasonable and supportable forecasts that affect the collectibility. This guidance is effective for public companies for annual reporting periods beginning after December 15, 2019 and for interim periods within those fiscal years. This guidance is effective for private companies, and emerging growth companies that choose to take advantage of the extended transition periods, for annual reporting periods beginning after December 15, 2020, and interim periods within fiscal years beginning after December 15, 2021. The Company is currently assessing the potential impact that the adoption of ASU 2016-13 will have on its consolidated financial statements.

In August 2016, the FASB issued ASU 2016-15, *Statement of Cash Flows: Classification of Certain Cash Receipts and Cash Payments* ("ASU 2016-15"), to address diversity in practice in how certain cash receipts and cash payments are presented and classified in the statement of cash flows. The standard is effective for public companies for annual periods beginning after December 15, 2017, including interim periods within those fiscal years. The standard is effective for private companies, and emerging growth companies that choose to take advantage of the extended transition periods, for annual periods beginning after December 15, 2018, and interim periods within fiscal years beginning after December 15, 2019. The Company is currently assessing the potential impact that the adoption of ASU 2016-15 will have on its consolidated financial statements.

In October 2016, the FASB issued ASU 2016-16, *Income Taxes (Topic 740): Intra-Entity Transfer of Assets Other than Inventory* ("ASU 2016-16"), which requires the recognition of the income tax consequences of an intra-entity transfer of an asset, other than inventory, when the transfer occurs. The standard is effective for public companies for annual periods beginning after December 15, 2017, including interim periods within those fiscal years. The standard is effective for private companies, and emerging growth companies that choose to take advantage of the extended transition periods, for annual periods beginning after December 15, 2018, and interim reporting periods within annual periods beginning after December 15, 2019. The Company is currently assessing the potential impact that the adoption of ASU 2016-16 will have on its consolidated financial statements.

In August 2017, the FASB issued ASU 2017-12, *Derivatives and Hedging—Targeted Improvements to Accounting for Hedging Activities* ("ASU 2017-12"), which aims to improve the financial reporting of hedging relationships to better portray the economic results of an entity's risk management activities in its financial statements. The standard is effective for public companies for annual periods beginning after December 15, 2018, including interim periods within those fiscal years. The standard is effective for private companies, and emerging growth companies that choose to take advantage of the extended transition periods, for annual periods beginning after December 15, 2019, and interim reporting periods within annual periods beginning after December 15, 2020. The Company is currently assessing the potential impact that the adoption of ASU 2017-12 will have on its consolidated financial statements.

3. Inventory

Inventory as of March 31, 2018 and December 31, 2017 consisted of the following:

	March 31, 2018	December 31, 2017
Raw materials	$ 4,753	$ 5,135
Work in process	—	7
Finished goods:		
Manufactured finished goods	31,008	36,321
Deferred inventory costs	1,222	3,344
	36,983	44,807
Valuation adjustment for excess and obsolete inventory	(7,629)	(8,659)
	$ 29,354	$ 36,148

4. Property and Equipment

Property and equipment as of March 31, 2018 and December 31, 2017 consisted of the following:

	March 31, 2018	December 31, 2017
Computers and purchased software	$ 13,377	$ 12,343
Leasehold improvements	1,295	1,268
Furniture and fixtures	1,831	1,752
Machinery and equipment	18,798	17,911
Land	3,091	3,091
Building	4,765	4,765
Building improvements	5,004	4,906
Trial systems at customers' sites	7,392	7,458
	55,553	53,494
Less: Accumulated depreciation and amortization	(26,387)	(24,131)
	$ 29,166	$ 29,363

During the three months ended March 31, 2018 and 2017, the Company transferred trial systems from inventory into property and equipment with values of ($65) and $435, respectively, net of transfers of trial systems to cost of revenue. In addition, the Company transferred $65 and $495 of equipment from inventory into property and equipment during the three months ended March 31, 2018 and 2017, respectively.

Total depreciation and amortization expense was $2,302 and $1,728 for the three months ended March 31, 2018 and 2017, respectively.

5. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities as of March 31, 2018 and December 31, 2017 consisted of the following:

	March 31, 2018	December 31, 2017
Accrued compensation and related taxes	$ 14,787	$ 22,465
Accrued warranty	1,131	1,246
Dividends and equitable adjustments payable (see Note 10)	8,420	10,661
Accrued customer incentives	4,428	8,437
Other accrued expenses	6,154	5,441
	$ 34,920	$ 48,250

Accrued Warranty

Substantially all of the Company's products are covered by warranties for software and hardware for periods ranging from 90 days to one year. In addition, in conjunction with customers' renewals of maintenance and support contracts, the Company offers an extended warranty for periods typically of one to three years for agreed-upon fees. In the event of a failure of a hardware product or software covered by these warranties, the Company must repair or replace the software or hardware or, if those remedies are insufficient, and at the discretion of the Company, provide a refund. The Company's warranty reserve, which is included in accrued expenses and other current liabilities in the consolidated balance sheets, reflects estimated material, labor and other costs related to potential or actual software and hardware warranty claims for which the Company expects to incur an obligation. The Company's estimates of anticipated rates of warranty claims and the costs associated therewith are primarily based on historical information and future forecasts. The Company periodically assesses the adequacy of the warranty reserve and adjusts the amount as necessary. If the historical data used to calculate the adequacy of the warranty reserve are not indicative of future requirements, additional or reduced warranty reserves may be required.

A summary of changes in the amount reserved for warranty costs for the three months ended March 31, 2018 and 2017 is as follows:

	Three Months Ended March 31,	
	2018	2017
Warranty reserve at beginning of period	$ 1,246	$ 1,256
Provisions	353	617
Charges	(468)	(467)
Warranty reserve at end of period	$ 1,131	$ 1,406

6. Fair Value Measurements

Certain assets and liabilities are carried at fair value under GAAP. Fair value is defined as the price that would be received for an asset or the exit price that would be paid to transfer a liability in the principal or most advantageous market in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. Financial assets and liabilities carried at fair value are to be classified and disclosed in one of the following three levels of the fair value hierarchy, of which the first two are considered observable and the last is considered unobservable:

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

Level 2— Observable inputs (other than Level 1 quoted prices), such as quoted prices in active markets for similar assets or liabilities at the measurement date; quoted prices in markets that are not active for identical or similar assets and liabilities; or other inputs that are observable or can be corroborated by observable market data.

Level 3— Unobservable inputs that involve management judgment and are supported by little or no market activity, including pricing models, discounted cash flow methodologies and similar techniques.

The following tables present information about the fair value of the Company's financial assets and liabilities as of March 31, 2018 and December 31, 2017 and indicate the level of the fair value hierarchy utilized to determine such fair values:

	Fair Value Measurements as of March 31, 2018 Using:			
	Level 1	Level 2	Level 3	Total
Assets:				
Certificates of deposit	$ —	$ 23,826	$ —	$ 23,826
Commercial paper	—	48,392	—	48,392
Money market mutual funds	223,111	—	—	223,111
	$ 223,111	$ 72,218	$ —	$ 295,329
Liabilities:				
SARs	$ —	$ —	$ 4,321	$ 4,321
Foreign currency forward contracts	—	217	—	217
	$ —	$ 217	$ 4,321	$ 4,538

	Fair Value Measurements as of December 31, 2017 Using:			
	Level 1	Level 2	Level 3	Total
Assets:				
Certificates of deposit	$ —	$ 18,905	$ —	$ 18,905
Commercial paper	—	11,483	—	11,483
Money market mutual funds	224,555	—	—	224,555
	$ 224,555	$ 30,388	$ —	$ 254,943
Liabilities:				
SARs	$ —	$ —	$ 2,155	$ 2,155
Foreign currency forward contracts	—	150	—	150
	$ —	$ 150	$ 2,155	$ 2,305

During the three months ended March 31, 2018 and 2017 there were no transfers between Level 1, Level 2 and Level 3.

There were no changes to the valuation techniques used to measure asset and liability fair values on a recurring basis during the three months ended March 31, 2018 from those included in the Company's audited consolidated financial statements for the year ended December 31, 2017. The following table provides a summary of changes in the fair values of the Company's SARs liability, for which fair value is determined by Level 3 inputs:

	Three Months Ended March 31,	
	2018	2017
Fair value at beginning of period	$ 2,155	$ 1,195
Change in fair value	2,166	(11)
Exercises	—	—
Fair value at end of period	$ 4,321	$ 1,184

7. Derivative Instruments

The Company has certain international customers that are billed in foreign currencies. To mitigate the volatility related to fluctuations in the foreign exchange rates for accounts receivable denominated in foreign currencies, the Company enters into foreign currency forward contracts. As of March 31, 2018, the Company had foreign currency forward contracts outstanding with notional amounts totaling 10,611 euros maturing in the second, third and fourth quarters of 2018. As of December 31, 2017, the Company had foreign currency forward contracts outstanding with notional amounts totaling 5,924 euros maturing in the first and second quarters of 2018.

The Company's foreign currency forward contracts economically hedge certain risk but are not designated as hedges for financial reporting purposes, and accordingly, all changes in the fair value of these derivative instruments are recorded as unrealized foreign currency transaction gains or losses and are included in the consolidated statements of operations and comprehensive income as a component of other income (expense). The Company records all derivative instruments in the consolidated balance sheet at their fair values. As of March 31, 2018 and December 31, 2017, the Company recorded a liability of $217 and $150, respectively, related to outstanding foreign currency forward contracts, which were included in accrued expenses and other current liabilities in the consolidated balance sheets.

8. Income Taxes

The Company's effective income tax rate was 9.2% and 5.7% for the three months ended March 31, 2018 and 2017, respectively. The effective income tax rate is based on the estimated annual effective tax rate, adjusted for discrete tax items recorded in the period. The provision for income taxes was $1,793 and $1,103 for the three months ended March 31, 2018 and 2017, respectively.

The Company determines its estimated annual effective tax rate at the end of each interim period based on estimated pre-tax income and facts known at that time. The estimated annual effective tax rate is applied to the year-to-date pre-tax income at the end of each interim period with certain adjustments. The tax effects of significant unusual or extraordinary items are discretely reflected in the periods in which they occur. The Company's estimated annual effective tax rate can change based on the mix of jurisdictional pre-tax income and other factors.

The effective income tax rate for the three months ended March 31, 2018 differed from the federal statutory rate due to the foreign tax rate differential, permanent differences, research and development tax credits, excess tax benefit from stock-based transactions, state taxes and impacts of the Tax Cuts and Jobs Act (the "TCJA"). Permanent differences primarily included the nondeductible stock-based compensation expense.

As of December 31, 2017, the Company has accounted for the impacts of the TCJA to the extent a reasonable estimate could be made and recognized provisional amounts related to the deemed repatriation tax, offset by the remeasurement of deferred tax assets and liabilities to record the effects of the tax law change in the period of enactment. This treatment is provided for in Staff Accounting Bulletin 118, which allows a company to record a provisional amount when it does not have the necessary information available, prepared, or analyzed in reasonable detail to complete its accounting for the change in the tax law during the measurement period. The measurement period ends when the company has obtained, prepared, and analyzed the information necessary to finalize its accounting, but cannot extend beyond one year. During the first quarter of 2018, the Internal Revenue Service issued additional guidance providing clarification on certain aspects of the deemed repatriation tax calculation. The additional guidance did not result in an adjustment to the provisional amounts recorded as of December 31, 2017. The Company will continue to monitor for new guidance related to provisional amounts recorded. The change in the provision for income taxes for the three months ended March 31, 2018 compared to the three months ended March 31, 2017 was primarily due to a decrease in tax benefits from stock-based transactions.

9. Debt

The aggregate principal amount of debt outstanding as of March 31, 2018 and December 31, 2017 consisted of the following:

	March 31, 2018	December 31, 2017
Term loans	$ 296,250	$ 297,000
Mortgage loan	7,186	7,261
Total principal amount of debt outstanding	$ 303,436	$ 304,261

Current and non-current debt obligations reflected in the consolidated balance sheets as of March 31, 2018 and December 31, 2017 consisted of the following:

	March 31, 2018	December 31, 2017
Current liabilities:		
Term loans	$ 3,000	$ 3,000
Mortgage loan	306	303
Current portion of principal payment obligations	3,306	3,303
Unamortized debt issuance costs, current portion	(1,145)	(1,147)
Current portion of long-term debt, net of unamortized debt issuance costs	$ 2,161	$ 2,156
Non-current liabilities:		
Term loans	$ 293,250	$ 294,000
Mortgage loan	6,880	6,958
Non-current portion of principal payment obligations	300,130	300,958
Unamortized debt issuance costs, non-current portion	(5,215)	(5,499)
Long-term debt, net of current portion and unamortized debt issuance costs	$ 294,915	$ 295,459

Term Loan and Revolving Credit Facilities

On December 20, 2016, the Company entered into a credit agreement with JPMorgan Chase Bank, N.A., as administrative agent, various lenders and JPMorgan Chase Bank, N.A. and Barclays Bank PLC providing for (i) a term loan facility of $300,000 and (ii) a revolving credit facility of up to $25,000 in revolving credit loans and letters of credit.

As of March 31, 2018 and December 31, 2017, $296,250 and $297,000 in principal amount, respectively, was outstanding under the term loan facility (the “Term Loans”) and the Company did not have any outstanding borrowings under the revolving credit facility; however, the Company had used $1,000 under the revolving credit facility for a stand-by letter of credit that serves as collateral for a stand-by letter of credit issued by Bank of America to one of the Company’s customers pursuant to a contractual performance guarantee. In addition, the Company may, subject to certain conditions, including the consent of the administrative agent and the institutions providing such increases, increase the facilities by an unlimited amount so long as the Company is in compliance with specified leverage ratios, or otherwise by up to $70,000.

Borrowings under the facilities bear interest at a floating rate, which can be either a Eurodollar rate plus an applicable margin or, at the Company’s option, a base rate (defined as the highest of (x) the JPMorgan Chase, N.A. prime rate, (y) the federal funds effective rate, plus one-half percent (0.50%) per annum and (z) a one-month Eurodollar rate plus 1.00% per annum) plus an applicable margin. The applicable margin for borrowings under the term loan facility is 4.00% per annum for Eurodollar rate loans (subject to a 1.00% per annum interest rate floor) and 3.00% per annum for base rate loans. As a result of the completion of the Company’s IPO in December 2017, the applicable margin for borrowings under the revolving credit facility is 1.75% per annum for Eurodollar rate loans and 0.75% per annum for base rate loans, subject to reduction based on the Company’s maintaining of specified net leverage ratios. The interest rates payable under the facilities are subject to an increase of 2.00% per annum during the continuance of any payment default.

For Eurodollar rate loans, the Company may select interest periods of one, two, three or six months or, with the consent of all relevant affected lenders, twelve months. Interest will be payable at the end of the selected interest period, but no less frequently than every three months within the selected interest period. Interest on any base rate loan is not set for any specified period and is payable quarterly. The Company has the right to convert Eurodollar rate loans into base rate loans and the right to convert base rate loans into Eurodollar rate loans at its option, subject, in the case of Eurodollar rate loans, to prepayment penalties if the conversion is effected prior to the end of the applicable interest period. As of March 31, 2018, the interest rate on the Term Loans was 5.88% per annum, which was based on a one-month Eurodollar rate of 1.88% per annum plus the applicable margin of 4.00% per annum for Eurodollar rate loans. As of December 31, 2017, the interest rate on the Term Loans was 5.69% per annum, which was based on a three-month Eurodollar rate of 1.69% per annum plus the applicable margin of 4.00% per annum for Eurodollar rate loans.

Upon entering into the term loan facility, the Company incurred debt issuance costs of $7,811, which were initially recorded as a reduction of the debt liability and are amortized to interest expense using the effective interest method from the issuance date of the Term Loan until the maturity date. Principal payments of $750 were made under the term loan facility during each of the three months ended March 31, 2018 and 2017. Interest expense, including the amortization of debt issuance costs, totaled $4,516 and $4,039 for the three months ended March 31, 2018 and 2017, respectively.

The revolving credit facility also requires payment of quarterly commitment fees at a rate of 0.25% per annum on the difference between committed amounts and amounts actually borrowed under the facility and customary letter of credit fees. For each of the three months ended March 31, 2018 and 2017, interest expense related to the fee for the unused amount of the revolving credit facility totaled $15.

The Term Loans mature on December 20, 2023, and the revolving credit facility matures on December 20, 2021. The Term Loans are subject to amortization in equal quarterly installments, which commenced on March 31, 2017, of principal in an annual aggregate amount equal to 1.0% of the original principal amount of the Term Loans of $300,000, with the remaining outstanding balance payable at the date of maturity.

Voluntary prepayments of principal amounts outstanding under the term loan facility are permitted at any time; however, if a prepayment of principal is made with respect to a Eurodollar loan on a date other than the last day of the applicable interest period, the Company is required to compensate the lenders for any funding losses and expenses incurred as a result of the prepayment. Prior to the revolving credit facility maturity date, funds borrowed under the revolving credit facility may be borrowed, repaid and reborrowed, without premium or penalty.

In addition, the Company is required to make mandatory prepayments under the facilities with respect to (i) 100% of the net cash proceeds from certain asset dispositions (including casualty and condemnation events) by the Company or certain of its subsidiaries, subject to certain exceptions and reinvestment provisions, (ii) 100% of the net cash proceeds from the issuance or incurrence of any additional debt by the Company or certain of its subsidiaries, subject to certain exceptions, and (iii) 50% of the Company’s excess cash flow, as defined in the credit agreement, subject to reduction upon its achievement of specified performance targets.

The facilities are secured by, among other things, a first priority security interest, subject to permitted liens, in substantially all of the Company’s assets and all of the assets of certain of its subsidiaries and a pledge of certain of the stock of certain of its subsidiaries, in each case subject to specified exceptions. The facilities contain customary affirmative and negative covenants, including certain restrictions on the Company’s ability to pay dividends, and, with respect to the revolving credit facility, a financial covenant requiring the Company to maintain a specified total net leverage ratio in the event that on the last day of any fiscal quarter the Company has utilized more than 30% of its borrowing capacity under the facility. As of March 31, 2018 and December 31, 2017, the Company had not utilized more than 30% of its borrowing capacity under the revolving credit facility and compliance with the financial covenant was not applicable.

Commercial Mortgage Loan

On July 1, 2015, the Company entered into a commercial mortgage loan agreement in the amount of $7,950 (the “Mortgage Loan”). Borrowings under the Mortgage Loan bear interest at a rate of 3.5% per annum and are repayable in 60 monthly installments of $46, consisting of principal and interest based on a 20-year amortization schedule. The remaining amount of unpaid principal under the Mortgage Loan is due on the maturity date of July 1, 2020. Upon entering into the Mortgage Loan, the Company incurred debt issuance costs of $45, which was initially recorded as a direct deduction from the debt liability and are amortized to interest expense using the effective interest method from issuance date of the loan until the maturity date.

The Company made principal payments under the Mortgage Loan of $76 and $73 during the three months ended March 31, 2018 and 2017, respectively. Interest expense, including the amortization of debt issuance costs, totaled $65 and $68 for the three months ended March 31, 2018 and 2017, respectively.

The Mortgage Loan is secured by the land and building purchased in March 2015 and subjects the Company to various affirmative, negative and financial covenants, including maintenance of a minimum debt service ratio. The Company was in compliance with all covenants of the Mortgage Loan as of March 31, 2018 and December 31, 2017.

As of March 31, 2018, aggregate minimum future principal payments of the Company's debt are summarized as follows:

Year Ending December 31,		
2018	$	2,478
2019		3,314
2020		9,644
2021		3,000
2022		3,000
Thereafter		282,000
	$	303,436

10. Stockholders' Equity

Special Dividends to Holders of Common and Preferred Stock

November 2017 Special Dividend

On November 30, 2017, the board of directors declared a special dividend to the holders of common stock and preferred stock of record on that date, contingent upon the closing of the Company's IPO. The cash dividend declared to stockholders was $0.5802 per share of common stock, $5.8020 per share of Series B convertible preferred stock (the "Series B Preferred Stock") and $5.8020 per share of Series C convertible preferred stock (the "Series C Preferred Stock"). Related to this special dividend declared in November 2017, the Company paid $865 of dividends to the common and preferred stockholders during the three months ended March 31, 2018, and as of December 31, 2017, dividend payments to be made totaled $865 and were included in accrued expenses and other current liabilities in the accompanying consolidated balance sheet. No dividend payments with respect to this special dividend were payable as of March 31, 2018.

In connection with this special dividend declared in November 2017, the board of directors also approved, contingent upon the payment of the November 2017 special dividend, cash payments to be made to holders of the Company's stock options, SARs and RSUs as an equitable adjustment to the holders of such instruments in accordance with the provisions of the Company's equity incentive plans. The equitable adjustment payments to the holders of the stock options, SARs and RSUs are equal to $0.5802 per share multiplied by the net number of shares subject to outstanding equity awards after applying the treasury stock method. The cash payments to such holders will be made as their equity awards vest through fiscal year 2021. During the three months ended March 31, 2018, the Company paid $387 to the holders of such vested equity awards. As of March 31, 2018 and December 31, 2017, equitable adjustment payments to be made as equity awards vest through fiscal year 2021, net of estimated forfeitures, totaled $1,348 and $1,735, respectively, and were included in accrued expenses and other current liabilities in the accompanying consolidated balance sheets.

The cash dividends declared to the holders of common stock, Series B Preferred Stock and Series C Preferred Stock totaled $19,572, $1,039 and $22,391, respectively, and the equitable adjustment to the holders of stock options, SARs and RSUs, net of estimated forfeitures, totaled $6,928. The $49,930 aggregate amount of such dividends and equitable adjustments was recorded as a charge to additional paid-in capital during the year ended December 31, 2017.

May 2017 Special Dividend

On May 10, 2017, the board of directors declared and the stockholders approved a special dividend to the holders of common stock and preferred stock of record on that date. The cash dividend declared to stockholders was $1.1774 per share of common stock, $11.7744 per share of Series B Preferred Stock and $11.7744 per share of Series C Preferred Stock. No dividend payments with respect to this special dividend were payable as of March 31, 2018 and December 31, 2017.

In connection with the special dividend declared in May 2017, the board of directors also approved cash payments to be made to holders of the Company's stock options, SARs and RSUs as an equitable adjustment to the holders of such instruments in accordance with the provisions of the Company's equity incentive plans. The equitable adjustment payments to the holders of the stock options, SARs and RSUs are equal to $1.1774 per share multiplied by the net number of shares subject to outstanding equity awards after applying the treasury stock method. The cash payments to such holders will be made as their equity awards vest through fiscal year 2021. During the three months ended March 31, 2018, the Company paid $262 to the holders of such vested equity awards. As of March 31, 2018 and December 31, 2017, equitable adjustment payments to be made as equity awards vest through fiscal year 2021, net of estimated forfeitures, totaled $2,030 and $2,292, respectively, and were included in accrued expenses and other current liabilities in the accompanying consolidated balance sheets.

The cash dividends declared to the holders of common stock, Series B Preferred Stock and Series C Preferred Stock totaled $39,585, $2,108 and $45,440, respectively, and the equitable adjustment to the holders of stock options, SARs and RSUs, net of estimated forfeitures, totaled $12,723. The $99,856 aggregate amount of such dividends and equitable adjustments was recorded as a charge to additional paid-in capital (until reduced to zero) and a charge to accumulated deficit during the year ended December 31, 2017.

December 2016 Special Dividend

On December 21, 2016, the board of directors declared, and on December 29, 2016 the stockholders approved, a special dividend to the holders of common stock and preferred stock of record on December 27, 2016. The cash dividend declared to stockholders was $2.3306 per share of common stock, $23.3058 per share of Series B Preferred Stock and $23.3058 per share of Series C Preferred Stock. Related to this special dividend declared in December 2016, the Company paid $77,153 of dividends to the common and preferred stockholders during the three months ended March 31, 2017 and no dividend payments with respect to this special dividend were payable as of December 31, 2017.

In connection with the special dividend declared in December 2016, the board of directors also approved cash payments to be made to holders of the Company’s stock options, SARs and RSUs as an equitable adjustment to the holders of such instruments in accordance with the provisions of the Company’s equity incentive plans. The equitable adjustment payments to the holders of stock options, SARs and RSUs are equal to $2.3306 per share multiplied by the net number of shares subject to outstanding equity awards after applying the treasury stock method. The cash payments to such holders will be made as their equity awards vest through fiscal year 2020. During the three months ended March 31, 2018 and 2017, the Company paid $592 and $19,369 to the holders of such vested equity awards. As of March 31, 2018 and December 31, 2017, equitable adjustment payments to be made as equity awards vest through fiscal year 2020, net of estimated forfeitures, totaled $4,134 and $4,726, respectively, and were included in accrued expenses and other current liabilities in the accompanying consolidated balance sheet.

June 2016 Special Dividend

On June 17, 2016, the board of directors declared and the stockholders approved a special dividend to the holders of common stock and preferred stock of record on that date. The cash dividend declared to stockholders was $0.5891 per share of common stock, $5.8910 per share of Series B Preferred Stock, and $5.8910 per share of Series C Preferred Stock. Related to this special dividend declared in June 2016, the Company paid no dividends to the common and preferred stockholders during the three months ended March 31, 2018 and 2017, and, as of March 31, 2018 and December 31, 2017, no dividend payments with respect to this special dividend were payable.

In connection with the special dividend declared in June 2016, the board of directors also approved cash payments to be made to holders of the Company’s stock options, SARs and RSUs as an equitable adjustment to the holders of such instruments in accordance with the provisions of the Company’s equity incentive plans. The equitable adjustment payments to the holders of stock options, SARs and RSUs are equal to $0.5891 per share multiplied by the net number of shares subject to outstanding equity awards after applying the treasury stock method. The cash payments to such holders will be made as their equity awards vest through fiscal year 2020. During the three months ended March 31, 2018 and 2017, the Company paid $119 and $177, respectively to the holders of such vested equity awards. As of March 31, 2018 and December 31, 2017, equitable adjustment payments to be made as equity awards vest through fiscal year 2020, net of estimated forfeitures, totaled $861 and $980 and were included in accrued expenses and other current liabilities in the accompanying consolidated balance sheet.

November 2014 Special Dividend

On November 30, 2014, the board of directors declared and the stockholders approved a special dividend to the holders of common stock and preferred stock of record on that date. The cash dividend declared to stockholders was $0.3835 per share of common stock, $3.8346 per share of Series B Preferred Stock and $3.8346 per share of Series C Preferred Stock. Related to this special dividend declared in November 2014, the Company paid no dividends to the common and preferred stockholders during the three months ended March 31, 2018 and 2017, and, as of March 31, 2018 and December 31, 2017, no dividend payments with respect to this special dividend were payable.

In connection with the special dividend declared in November 2014, the board of directors also approved cash payments to be made to holders of the Company’s stock options and SARs as an equitable adjustment to the holders of such instruments in accordance with the provisions of the Company’s equity incentive plans. The equitable adjustment payments to the holders of stock options and SARs are equal to $0.3835 per share multiplied by the net number of shares subject to outstanding equity awards after applying the treasury stock method. The cash payments to the holders of stock options and SARs will be made as equity awards vest through fiscal year 2018. During the three months ended March 31, 2018 and 2017, the Company paid $16 and $40, respectively, to the holders of stock options and SARs for vested equity awards. As of March 31, 2018 and December 31, 2017, equitable adjustment payments to be made as equity awards vest through fiscal year 2018, net of estimated forfeitures, totaled $47 and $63, respectively, and were included in accrued expenses and other current liabilities in the accompanying consolidated balance sheets.

11. Stock-based Compensation

2017 Stock Incentive Plan

The Company's 2017 Stock Incentive Plan (the "2017 Plan") provides for the Company to sell or issue common stock or restricted common stock, or to grant qualified incentive stock options, nonqualified stock options, SARs, RSUs or other stock-based awards to the Company's employees, officers, directors, advisers and outside consultants. The total number of shares authorized for issuance under the 2017 Plan was 10,062 shares as of March 31, 2018, of which 8,857 shares remained available for future grant.

Stock Options

The following table summarizes the outstanding stock option activity and a summary of information related to stock options as of and for the three months ended March 31, 2018:

	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding at January 1, 2018	15,579	$ 4.55	6.18	$ 205,717
Granted	462	24.28		
Exercised	(266)	2.53		
Forfeited	(59)	11.40		
Outstanding at March 31, 2018	15,716	$ 5.14	6.06	$ 380,263
Options exercisable at March 31, 2018	11,868	$ 3.14	5.27	$ 310,894
Vested or expected to vest at March 31, 2018	15,479	$ 5.02	6.01	$ 376,463

The fair value of each option is estimated on the date of grant using the Black-Scholes option-pricing model using the following assumptions:

	Three Months Ended March 31, 2018	Three Months Ended March 31, 2017
Risk-free interest rate	2.7%	2.0%–2.1%
Expected term (in years)	6.0–6.2	6.0–6.2
Expected volatility	32.4%–32.6%	38.1%–38.5%
Expected dividend yield	0.0%	0.0%

The weighted-average grant-date fair value of options granted during the three months ended March 31, 2018 and 2017 was $8.88 and $4.92 per share, respectively. Cash proceeds received upon the exercise of options were $675 and $40 during the three months ended March 31, 2018 and 2017, respectively. The intrinsic value of stock options exercised during the three months ended March 31, 2018 and 2017 was $5,873 and $181, respectively. The aggregate intrinsic value is calculated as the difference between the exercise price of the stock options and the fair value of the Company's common stock for those stock options that had exercise prices lower than the fair value of the Company's common stock.

Restricted Stock Units

A summary of RSU activity under the Company’s 2011 Stock Incentive Plan (the “2011 Plan”) and the 2017 Plan for the three months ended March 31, 2018 is as follows:

	Number of Shares	Weighted-Average Grant Date Fair Value	Aggregate Fair Value
Unvested balance at January 1, 2018	896	$ 7.09	
Granted	103	24.87	
Vested	(491)	5.46	$ 8,735
Unvested balance at March 31, 2018	508	$ 12.27	

The Company withheld 310 shares of common stock in settlement of employee tax withholding obligations due upon the vesting of RSUs during the three months ended March 31, 2017. During the three months ended March 31, 2018, the Company withheld no shares of common stock in settlement of employee tax withholding obligations due upon the vesting of RSUs.

Stock Appreciation Rights

In January 2017, the Company granted 110 stock appreciation rights (“SARs”) that allow the holder the right, upon exercise, to receive in cash the amount of the difference between the fair value of the Company’s common stock at the date of exercise and the price of the underlying common stock at the date of grant of each SAR. The price of the underlying common stock on the date of grant was $12.24 per share and the grant-date fair value was $4.52 per SAR. The SARs vest over a four-year period from the date of grant and expire ten years from the date of grant. As of March 31, 2018, 240 SARs were outstanding and 60 were unvested. As of March 31, 2018, there were 180 SARs exercisable and the weighted-average fair value was $24.07 per SAR. The fair value of the SAR liability as of March 31, 2018 and December 31, 2017 was $4,321 and $2,155, respectively, (see Note 6) and was included in accrued expenses and other current liabilities in the accompanying consolidated balance sheets.

Stock-Based Compensation Expense

Stock-based compensation expense related to stock options, RSUs and SARs for the three months ended March 31, 2018 and 2017 was classified in the condensed consolidated statements of operations and comprehensive income as follows:

	Three Months Ended March 31, 2018	Three Months Ended March 31, 2017
Cost of revenue	$ 209	$ 71
Research and development expenses	2,018	516
Sales and marketing expenses	375	277
General and administrative expenses	1,628	1,036
	$ 4,230	$ 1,900

As of March 31, 2018, there was $21,337 of unrecognized compensation cost related to outstanding stock options, RSUs and SARs, which is expected to be recognized over a weighted-average period of 2.79 years.

12. Net Income per Share

Basic and diluted net income per share attributable to common stockholders was calculated as follows:

	Three Months Ended March 31,	
	2018	2017
Numerator:		
Net income	$ 17,776	$ 18,154
Cumulative dividends on convertible preferred stock	—	(1,451)
Undistributed earnings allocated to participating securities	—	(9,115)
Net income attributable to common stockholders, basic	17,776	7,588
Undistributed earnings reallocated to dilutive potential common shares	—	1,055
Net income attributable to common stockholders, diluted	$ 17,776	$ 8,643
Denominator:		
Weighted-average shares used to compute net income per share attributable to common stockholders, basic	81,629	33,618
Dilutive effect of stock options	11,713	9,279
Dilutive effect of restricted stock units	252	402
Weighted-average shares used to compute net income per share attributable to common stockholders, diluted	93,594	43,299
Net income per share attributable to common stockholders:		
Basic	$ 0.22	$ 0.23
Diluted	$ 0.19	$ 0.20

The following potential common shares, presented based on amounts outstanding at each period end, were excluded from the computation of diluted net income per share attributable to common stockholders for the periods presented because including them would have been anti-dilutive:

	Three Months Ended March 31,	
	2018	2017
Convertible preferred stock (on an as-converted basis)	—	40,382
Options to purchase common stock	462	1,399
Unvested restricted stock units	103	—

13. Segment Information

The Company operates as one operating segment. Operating segments are defined as components of an enterprise for which separate financial information is regularly evaluated by the Company’s chief operating decision maker, or decision-making group, in deciding how to allocate resources and assess performance. The Company has determined that its chief operating decision maker is its President and Chief Executive Officer. The Company’s chief operating decision maker reviews the Company’s financial information on a consolidated basis for purposes of allocating resources and assessing financial performance. Since the Company operates as one operating segment, all required financial segment information can be found in these consolidated financial statements.

The following table summarizes the Company's revenue based on the customer's location, as determined by the customer's shipping address:

	Three Months Ended March 31, 2018	Three Months Ended March 31, 2017
North America:		
United States	$ 36,071	$ 15,961
Canada	10,092	13,846
Total North America	46,163	29,807
Europe, Middle East and Africa:		
Germany	8,134	8,196
Other	16,023	12,877
Total Europe, Middle East and Africa	24,157	21,073
Latin America	9,402	11,967
Asia-Pacific	9,352	9,882
Total revenue(1)	$ 89,074	$ 72,729

(1) Other than the United States, Canada and Germany, no individual countries represented 10% or more of the Company's total revenue for any of the periods presented.

The Company's property and equipment, net by location was as follows:

	March 31, 2018	December 31, 2017
United States	$ 24,415	$ 24,903
China	3,003	2,612
Other	1,748	1,848
Total property and equipment, net	$ 29,166	$ 29,363

14. Related Parties

Transactions Involving Liberty Global Ventures Holding B.V. and its Affiliates

Liberty Global Ventures Holding B.V. is a principal stockholder of the Company through its ownership of common stock. Affiliates of Liberty Global Ventures Holding B.V. ("Liberty Global Affiliates") are customers of the Company. During the three months ended March 31, 2018 and 2017, the Company recognized revenue of $15,731 and $14,953, respectively, from transactions with Liberty Global Affiliates and amounts received in cash from Liberty Global Affiliates totaled $13,892 and $12,431, respectively. As of March 31, 2018 and December 31, 2017, amounts due from Liberty Global Affiliates totaled $15,067 and $13,367, respectively.

Consulting Agreement with Bill Styslinger

In March 2012, the Company entered into a consulting agreement with Bill Styslinger, a member of its board of directors, for the provision of sales management, corporate strategy and advisory services, which was initially scheduled to expire on January 31, 2014. The Company extended the term of the consulting agreement on two occasions, and the consulting agreement expired on December 31, 2016. In connection with Mr. Styslinger's services as a consultant, in May 2012, the Company granted Mr. Styslinger stock options for the purchase of 600 shares of common stock, at an exercise price of $1.69 per share, which vested as to one-third of the shares under the award on February 1, 2013 and in equal monthly installments thereafter for the following two years. The grant-date fair value of the award totaled $527, which was recorded by the Company as stock-based compensation expense over the vesting period of the award.

In connection with special dividends declared by the Company's board of directors in November 2014, June 2016, December 2016, May 2017 and November 2017 (see Note 10), the board of directors also approved cash payments to be made to holders of the Company's stock options, SARs and RSUs in accordance with the provisions of the Company's equity incentive plans. In connection with the special dividends declared in December 2016, the Company paid Mr. Styslinger $616 as equitable adjustments in the three months ended March 31, 2017. The Company made no payments to Mr. Styslinger as equitable adjustments in the three months ended March 31, 2018.

In addition, during the three months ended March 31, 2018 and 2017, the Company recognized general and administrative expenses of $51 and $50, respectively, for Mr. Styslinger's services as a non-employee director. As of March 31, 2018, $51 was due to Mr. Styslinger for his services as a non-employee director. No amount was due to Mr. Styslinger for his services as a non-employee director as of December 31, 2017.

Employment of Rongke Xie

Rongke Xie, who serves as Deputy General Manager of Guangzhou Casa Communication Technology LTD ("Casa China"), a subsidiary of the Company, is the sister of Lucy Xie, the Company's Senior Vice President of Operations and a member of the Company's board of directors. Casa China paid Rongke Xie $79 and $100 in total compensation in the three months ended March 31, 2018 and 2017, respectively, for her services as an employee.

15. Commitments and Contingencies

Operating Leases

The Company leases manufacturing, warehouse and office space in the United States, China, Spain and Ireland under non-cancelable operating leases that expire in 2021, 2019, 2023 and 2026, respectively. The Ireland lease provides the Company the right to terminate in 2021. Rent expense for the three months ended March 31, 2018 and 2017 was $253 and $210, respectively. Rent expense is recorded on a straight-line basis, and, as a result, as of March 31, 2018 and December 31, 2017, the Company had a deferred rent liability of $251 and $258, respectively, which is included in accrued expenses and other current liabilities in the accompanying consolidated balance sheets.

Future minimum lease payments under non-cancelable operating leases as of March 31, 2018 were as follows:

Year Ending December 31,		
2018	$	708
2019		679
2020		673
2021		476
2022		68
Thereafter		5
	$	2,609

Indemnification

The Company has, in the ordinary course of business, agreed to defend and indemnify certain customers against third-party claims asserting infringement of certain intellectual property rights, which may include patents, copyrights, trademarks or trade secrets.

As permitted under Delaware law, the Company indemnifies its officers, directors and employees for certain events or occurrences that happen by reason of their relationship with or position held at the Company.

As of March 31, 2018 and December 31, 2017, the Company had not experienced any losses related to these indemnification obligations and no material claims were outstanding. The Company does not expect significant claims related to these indemnification obligations and, consequently, concluded that the fair value of these obligations is negligible, and no related liabilities were recorded in its consolidated financial statements.

Litigation

From time to time, and in the ordinary course of business, the Company may be subject to various claims, charges and litigation. As of March 31, 2018, the Company did not have any pending claims, charges or litigation that it expects would have a material adverse effect on its consolidated financial position, results of operations or cash flows.

16. Subsequent Events

On April 30, 2018, the Company closed a follow-on offering in which certain selling stockholders sold 7,350 shares of common stock at a price to the public of $25.00 per share, before deducting underwriting discounts and commissions. The underwriters were granted a 30-day option to purchase up to an additional 1,103 shares from the selling stockholders. The Company did not sell any common stock in this offering and did not receive any of the proceeds from the sale of shares by the selling stockholders. In connection with the sale of shares by the selling stockholders, certain of the selling stockholders disgorged $3,811 to the Company in accordance with Section 16(b) of the Securities Exchange Act of 1934 and the Company incurred approximately $825 in transaction costs related to the offering.

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

The following discussion of our financial condition and results of operations should be read together with our condensed consolidated financial statements and related notes and other financial information included elsewhere in this Quarterly Report on Form 10-Q. The following discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Quarterly Report on Form 10-Q, particularly in the section titled "Risk Factors."

Overview

We offer solutions for next-generation centralized, distributed and virtualized architectures in cable broadband, fixed-line broadband and wireless networks. Our innovative solutions enable customers to cost-effectively and dynamically increase network speed, add bandwidth capacity and new services for consumers and enterprises, reduce network complexity and reduce operating and capital expenditures.

We have created a software-centric, multi-service portfolio that enables a broad range of core and access network functions for fixed and wireless networks. These networks share a common set of core and access network functions that enable network services such as subscriber management, session management, transport security and radio frequency, or RF, management. Our Axyom software architecture allows each of these network functions to be provided and controlled by a distinct segment of software, which can be integrated or combined together in a building block-style fashion with the segments of software responsible for each other network function. This allows us to offer network architectures that can be efficiently tailored to meet each customer's specific requirements, both as they exist at the time of initial implementation and as they evolve over time.

Results of Operations

The following tables set forth our consolidated results of operations in dollar amounts and as percentage of total revenue for the periods shown:

	Three Months Ended March 31,	
	2018	2017
	(in thousands)	
Revenue:		
Product	$ 80,189	$ 65,209
Service	8,885	7,520
Total revenue	89,074	72,729
Cost of revenue(1):		
Product	25,780	19,132
Service	1,339	1,257
Total cost of revenue	27,119	20,389
Gross profit	61,955	52,340
Operating expenses:		
Research and development(1)	20,530	14,468
Sales and marketing(1)	11,268	10,080
General and administrative(1)	7,188	4,995
Total operating expenses	38,986	29,543
Income from operations	22,969	22,797
Other income (expense), net	(3,400)	(3,540)
Income before provision for income taxes	19,569	19,257
Provision for income taxes	1,793	1,103
Net income	$ 17,776	$ 18,154

(1) Includes stock-based compensation expense related to stock options, stock appreciation rights and restricted stock units granted to employees and non-employee consultants as follows:

	Three Months Ended March 31, 2018	Three Months Ended March 31, 2017
	(in thousands)	
Cost of revenue	$ 209	$ 71
Research and development expense	2,018	516
Sales and marketing expense	375	277
General and administrative expense	1,628	1,036
Total stock-based compensation expense	$ 4,230	$ 1,900

	Three Months Ended March 31, 2018	Three Months Ended March 31, 2017
	(as a percentage of total revenue)	
Revenue:		
Product	90%	90%
Service	10	10
Total revenue	100	100
Cost of revenue:		
Product	29	26
Service	2	2
Total cost of revenue	30	28
Gross profit	70	72
Operating expenses:		
Research and development	23	20
Sales and marketing	13	14
General and administrative	8	7
Total operating expenses	44	41
Income from operations	26	31
Other income (expense), net	(4)	(5)
Income before provision for income taxes	22	26
Provision for income taxes	2	1
Net income	20%	25%

Percentages in the table above are based on actual values. As a result, some totals may not sum due to rounding.

Three Months Ended March 31, 2018 Compared to the Three Months Ended March 31, 2017

	Three Months Ended March 31, 2018		2017		Change	
	Amount	% of Total	Amount	% of Total	Amount	%
	(dollars in thousands)					
Revenue:						
Product	$ 80,189	90.0%	$ 65,209	89.7%	$ 14,980	23.0%
Service	8,885	10.0%	7,520	10.3%	1,365	18.2%
Total revenue	$ 89,074	100.0%	$ 72,729	100.0%	$ 16,345	22.5%
Revenue by geographic region:						
North America	$ 46,163	51.8%	$ 29,807	41.0%	$ 16,356	54.9%
Latin America	9,402	10.6%	11,967	16.4%	(2,565)	(21.4)%
Europe, Middle East and Africa	24,157	27.1%	21,073	29.0%	3,084	14.6%
Asia-Pacific	9,352	10.5%	9,882	13.6%	(530)	(5.4)%
Total revenue	$ 89,074	100.0%	$ 72,729	100.0%	$ 16,345	22.5%

The increase in product revenue was primarily due to an increase in sales of our products to existing customers in North America and Europe, Middle East and Africa as a result of an increase in the deployment of our software-centric broadband products in their networks and increased sales of software-enabled capacity expansions to provide their subscribers with greater bandwidth capacity. These increases were partially offset by a decrease in sales of our software-centric broadband products in Latin America and Asia-Pacific, which we believe was primarily due to the timing of customer expenditures on network upgrades.

The increase in service revenue was primarily due to a $1.3 million increase in maintenance and support services revenue due to an increase in our installed base of customers from product purchases and from customers renewing their maintenance and support service contracts in addition to a $0.1 million increase in professional services revenue due to an increase in customer projects requiring our assistance.

Cost of Revenue and Gross Profit

	Three Months Ended March 31,		Change	
	2018	2017	Amount	%
	(dollars in thousands)			
Cost of revenue:				
Product	$ 25,780	$ 19,132	$ 6,648	34.7%
Service	1,339	1,257	82	6.5%
Total cost of revenue	$ 27,119	$ 20,389	$ 6,730	33.0%

The increase in cost of product revenue was primarily due to an increase in sales of our hardware-based broadband products for customer network upgrades.

The increase in cost of service revenue was primarily due to an increase in subcontracted professional services.

	Three Months Ended March 31,				Change	
	2018		2017			
	Amount	Gross Margin	Amount	Gross Margin	Amount	Gross Margin (bps)
	(dollars in thousands)					
Gross profit:						
Product	$ 54,409	67.9%	$ 46,077	70.7%	$ 8,332	(280)
Service	7,546	84.9%	6,263	83.3%	1,283	160
Total gross profit	$ 61,955	69.6%	$ 52,340	72.0%	$ 9,615	(240)

The decrease in product gross margin was primarily due to an increase in sales of our hardware-based broadband products for customer network upgrades. During the three months ended March 31, 2017, we recognized $8.5 million of product revenue upon the expiration of trade-in rights for which there were no product costs.

The increase in service gross margin was due to an increase in maintenance and support services revenue.

Research and Development

	Three Months Ended March 31,		Change	
	2018	2017	Amount	%
	(dollars in thousands)			
Research and development	$ 20,530	$ 14,468	$ 6,062	41.9%
Percentage of revenue	23.0%	19.9%		

The increase in research and development expense was primarily due to a $1.9 million increase in personnel-related costs as a result of the increase in the headcount of our research and development personnel from 358 to 405 to support the development of our new wireless and software-centric broadband products and to enhance our existing software-centric broadband products, a $1.8 million increase in development costs for new broadband products, a $1.5 million increase in stock-based compensation expense primarily related to the revaluation of stock appreciation rights, a $0.5 million increase in depreciation expense for research and development related assets, and a $0.1 million increase in facilities and infrastructure expenses.

Sales and Marketing

	Three Months Ended March 31,		Change	
	2018	2017	Amount	%
	(dollars in thousands)			
Sales and marketing	$ 11,268	$ 10,080	$ 1,188	11.8%
Percentage of revenue	12.7%	13.9%		

The increase in sales and marketing expense was due to a $1.8 million increase in personnel-related costs due to an increase in headcount, which was partially offset by a $0.6 million decrease in sales agent commissions and a $0.1 million decrease in marketing costs related to a reduction in trade show and event expenses.

General and Administrative

	Three Months Ended March 31,		Change	
	2018	2017	Amount	%
	(dollars in thousands)			
General and administrative	$ 7,188	$ 4,995	$ 2,193	43.9%
Percentage of revenue	8.1%	6.9%		

The increase in general and administrative expense was primarily due to a $1.4 million increase in personnel-related costs due to an increase in headcount to support the continued growth in our business and $0.8 million of expense to support the requirements of being a public company.

Other Income (Expense), Net

	Three Months Ended March 31,		Change	
	2018	2017	Amount	%
	(dollars in thousands)			
Other income (expense), net	$ (3,400)	$ (3,540)	$ 140	(4.0)%
Percentage of revenue	(3.8)%	(4.9)%		

The change from a net other expense of $3.5 million to $3.4 million was primarily due to a $0.6 million increase in interest income due to an increase in interest rates and an increase in our portfolio of cash equivalents, partially offset by a $0.5 million increase in interest expense attributable to our term loan facility due to an increase in interest rates.

Provision for Income Taxes

	Three Months Ended March 31,		Change	
	2018	2017	Amount	%
	(dollars in thousands)			
Provision for income taxes	$ 1,793	$ 1,103	$ 690	62.6%
Effective tax rate	9.2%	5.7%		

The 3.5% increase in our effective tax rate primarily resulted from a 3.7% decrease in tax benefits of certain employee stock-based compensation transactions.

Liquidity and Capital Resources

Since our inception, we have primarily funded our operations through issuances of shares of our convertible preferred stock and cash flows from operations. In addition, in December 2016, we entered into a credit agreement that included a term loan facility under which we borrowed $300.0 million, and in December 2017, we closed our initial public offering, or IPO, of 6,900,000 shares and received net proceeds of $79.3 million, after deducting underwriting discounts and commissions and offering costs. The following tables set forth our cash and cash equivalents and working capital as of March 31, 2018 and December 31, 2017 as well as our net cash flows for the three months ended March 31, 2018 and 2017:

	March 31, 2018	December 31, 2017
	(in thousands)	
Consolidated Balance Sheet Data:		
Cash and cash equivalents	$ 307,095	$ 260,820
Working capital	349,586	324,710

	Three Months Ended March 31,	
	2018	2017
	(in thousands)	
Consolidated Cash Flow Data:		
Net cash provided by operating activities	$ 51,143	$ 13,416
Net cash used in investing activities	(2,539)	(1,858)
Net cash used in financing activities	(3,368)	(102,555)

As of March 31, 2018, we had cash and cash equivalents of $307.1 million and net accounts receivable of $93.2 million. We maintain a $25.0 million revolving credit facility under which $24.0 million was available and $1.0 million was used as collateral for a stand-by letter of credit as of March 31, 2018.

Of our total cash and cash equivalents of $307.1 million as of March 31, 2018, $60.8 million was held by our foreign subsidiaries. The TCJA established a modified territorial system requiring a mandatory deemed repatriation tax on undistributed earnings of foreign subsidiaries. In December 2017, we recorded a provisional charge related to a one-time deemed repatriation of accumulated earnings of foreign subsidiaries and related withholding taxes. As a result, applicable U.S. corporate and foreign income taxes have been provided on substantially all of our accumulated earnings of foreign subsidiaries previously considered indefinitely reinvested. Beginning in 2018, the TCJA also requires a minimum tax on certain future earnings generated by foreign subsidiaries while providing future tax-free repatriation of such earnings through a 100% dividends-received deduction. We are still evaluating whether to change our indefinite reinvestment assertion in light of the TCJA and consider that conclusion to be incomplete under guidance issued by the SEC. If we subsequently change our assertion during the measurement period, such changes will be accounted for through an adjustment to the provisional income tax charge during 2018, which is expected to be finalized no later than the fourth quarter of 2018.

We believe our existing cash and cash equivalents, anticipated cash flows from future operations and liquidity available from our revolving credit facility will be sufficient to meet our working capital and capital expenditure needs and debt service obligations for at least the next 12 months. Our future capital requirements may vary materially from those currently planned and will depend on many factors, including our rate of revenue growth, the timing and extent of spending on research and development efforts and other business initiatives, purchases of capital equipment to support our growth, the expansion of sales and marketing activities, expansion of our business through acquisitions or our investments in complementary products, technologies or businesses, the use of working capital to purchase additional inventory, the timing of new product introductions, market acceptance of our products and overall economic conditions. To the extent that current and anticipated future sources of liquidity are insufficient to fund our future business activities and requirements, we may be required to seek additional equity or debt financing. In the event additional financing is required from outside sources, we may not be able to raise it on terms acceptable to us or at all.

From our inception through March 31, 2018, our board of directors has declared a special dividend on five separate occasions and has approved cash payments to the holders of our stock options, stock appreciation rights, or SARs, and restricted stock units, or RSUs, as equitable adjustments in connection with these special dividends. The dividend payments totaled $0.9 million, $206.4 million, $137.4 million and $0.3 million in the three months ended March 31, 2018 and the years ended December 31, 2017, 2016 and 2015, respectively. The equitable adjustment payments totaled $1.4 million, $40.2 million, $4.9 million and $0.4 million in the three months ended March 31, 2018 and the years ended December 31, 2017, 2016 and 2015, respectively. As of March 31, 2018, there were $8.4 million of equitable adjustment payments that had been approved by our board of directors that had not yet been paid to the holders of our stock options, SARs and RSUs. These equitable adjustment payments will be paid to the holders of the applicable equity awards as they vest through 2021. We do not anticipate declaring cash dividends in the foreseeable future. Any future determination to declare dividends will be subject to the discretion of our board of directors and applicable law, and will depend on various factors, including our results of operations, financial condition, prospects and any other factors deemed relevant by our board of directors.

Cash Flows

Operating Activities

Our primary source of cash from operating activities has been from cash collections from our customers. We expect cash inflows from operating activities to be affected by increases in sales and timing of collections and by purchases and shipments of inventory. Our primary uses of cash from operating activities have been for personnel costs and investment in sales and marketing and research and development. We expect cash outflows from operating activities to increase as a result of further investment in research and development and sales and marketing and increases in personnel costs as we continue to enhance our products and introduce new products in an effort to continue to expand our business.

During the three months ended March 31, 2018, cash provided by operating activities was $51.1 million, primarily resulting from our net income of $17.8 million, net non-cash charges of $6.5 million and net cash provided by changes in our operating assets and liabilities of $26.8 million. The net cash provided by changes in our operating assets and liabilities during the three months ended March 31, 2018 was primarily due to a $28.5 million decrease in accounts receivable due to the timing of billings and collections during the period and a $7.7 million decrease in inventory due to shipments of products to customers. These sources of cash were partially offset by a $7.2 million decrease in accrued expenses and other current liabilities, which included a decrease of $9.2 million for personnel-related accrued liabilities, such as accrued salaries and bonuses, and a $4.6 million decrease in deferred revenue primarily due to recognition of $4.0 million of revenue upon the product acceptance of an existing customer in the Asia-Pacific region and the recognition of $3.9 million of deferred revenue for an existing customer in Europe, partially offset by the deferral of the revenue recognition for certain sales transactions resulting from future obligations to deliver products and services to existing customers in North America and Europe and maintenance and support service contract renewals.

During the three months ended March 31, 2017, cash provided by operating activities was $13.4 million, primarily resulting from our net income of $18.2 million, net non-cash charges of $5.6 million and net cash used by changes in our operating assets and liabilities of $10.4 million. The net cash used by changes in our operating assets and liabilities during the three months ended March 31, 2017 was primarily due to a $20.1 million decrease in deferred revenue primarily due to recognition of $8.5 million of revenue upon the expiration of trade-in rights for an existing customer in North America and the recognition of $6.3 million and $2.2 million of revenue upon the product acceptance of existing customers in the Asia-Pacific region and in North America, respectively; a $12.7 million decrease in accounts payables primarily attributable to timing of our payments for purchases of inventory; a $10.8 million decrease in accrued income taxes due to the timing of tax payments; a $10.0 million decrease in accrued expenses and other current liabilities, which included a decrease of $7.4 million for personnel-related accrued liabilities, such as accrued salaries and bonuses; and a $7.5 million increase in inventory due to anticipated growth in our business. These uses of cash were partially offset by a $53.1 million decrease in accounts receivable due to the timing of billings and collections during the period.

Investing Activities

Our investing activities have consisted primarily of expenditures for lab and computer equipment and software to support the development of new products and increase our manufacturing capacity to meet customer demand for our products. In addition, our investing activities include expansion of and improvements to our facilities. As our business expands, we expect that we will continue to invest in these areas.

Net cash used in investing activities during the three months ended March 31, 2018 was $2.5 million and consisted of purchases of property and equipment.

Net cash used in investing activities during the three months ended March 31, 2017 was $1.9 million and consisted of purchases of property and equipment.

Financing Activities

Net cash used in financing activities during the three months ended March 31, 2018 was $3.4 million and consisted of dividend and equitable adjustment payments of $2.2 million, initial public offering costs of $1.0 million and principal repayments of debt of $0.8 million, partially offset by proceeds from exercise of stock options of $0.7 million.

Net cash used in financing activities during the three months ended March 31, 2017 was $102.6 million and consisted of dividend and equitable adjustment payments of $96.7 million, employee taxes paid related to net share settlement of restricted stock units of $3.8 million, initial public offering costs of $1.2 million and principal repayments of debt of $0.8 million.

Commercial Mortgage Loan

In July 2015, we entered into an $8.0 million commercial mortgage loan agreement. The annual interest rate on the loan is 3.5%, and the loan is repayable in 60 monthly installments of principal and interest based on a 20-year amortization schedule. The loan is secured by the land and building, which are our corporate offices, purchased in March 2015, and contains annual affirmative, negative and financial covenants, including maintenance of a minimum debt service ratio. We were in compliance with all the covenants of the mortgage loan as of March 31, 2018 and December 31, 2017. As of March 31, 2018 and December 31, 2017, the outstanding principal amount under the mortgage loan was $7.2 million and $7.3 million, respectively.

Term Loan and Revolving Credit Facilities

On December 20, 2016, we entered into a credit agreement with JPMorgan Chase Bank, N.A., as administrative agent, various lenders and JPMorgan Chase Bank, N.A. and Barclays Bank PLC, as joint lead arrangers and joint bookrunners, providing for:

- a term loan facility of $300.0 million and
- a revolving credit facility of up to $25.0 million in revolving credit loans and letters of credit.

As of March 31, 2018 and December 31, 2017, we had borrowings of $296.3 million and $297.0 million, respectively, outstanding under the term loan facility and we did not have any outstanding borrowings under the revolving credit facility; however, we had used $1.0 million under the revolving credit facility for a stand-by letter of credit that serves as collateral for a stand-by letter of credit issued by Bank of America to one of our customers pursuant to a contractual performance guarantee. In addition, we may, subject to certain conditions, including the consent of the administrative agent and the institutions providing such increases, increase the facilities by an unlimited amount so long as we are in compliance with specified leverage ratios, or otherwise by up to $70.0 million.

Borrowings under the facilities bear interest at a floating rate, which can be either a Eurodollar rate plus an applicable margin or, at our option, a base rate (defined as the highest of (x) the JPMorgan Chase, N.A. prime rate, (y) the federal funds effective rate, plus one-half percent (0.50%) per annum and (z) a one-month Eurodollar rate plus 1.00% per annum) plus an applicable margin. The applicable margin for borrowings under the term loan facility is 4.00% per annum for Eurodollar rate loans (subject to a 1.00% per annum interest rate floor) and 3.00% per annum for base rate loans. As a result of the completion of our initial public offering in December 2017, the applicable margin for borrowings under the revolving credit facility is 1.75% per annum for Eurodollar rate loans and 0.75% per annum for base rate loans, subject to reduction based on our maintaining of specified net leverage ratios. The interest rates payable under the facilities are subject to an increase of 2.00% per annum during the continuance of any payment default.

For Eurodollar rate loans, we may select interest periods of one, two, three or six months or, with the consent of all relevant affected lenders, twelve months. Interest will be payable at the end of the selected interest period, but no less frequently than every three months within the selected interest period. Interest on any base rate loan is not set for any specified period and is payable quarterly. We have the right to convert Eurodollar rate loans into base rate loans and the right to convert base rate loans into Eurodollar rate loans at our option, subject, in the case of Eurodollar rate loans, to prepayment penalties if the conversion is effected prior to the end of the applicable interest period. As of March 31, 2018, the interest rate on the term loans was 5.88% per annum, which was based on a one-month Eurodollar rate at the applicable floor of 1.88% per annum plus the applicable margin of 4.00% per annum for Eurodollar rate loans. As of December 31, 2017, the interest rate on our borrowings under the term loan facility was 5.69% per annum, which was based on a three-month Eurodollar rate of 1.69% per annum plus the applicable margin of 4.00% per annum for Eurodollar rate loans.

The revolving credit facility also requires payment of quarterly commitment fees at a rate of 0.25% per annum on the difference between committed amounts and amounts actually borrowed under the facility and customary letter of credit fees.

The term loan facility matures on December 20, 2023 and the revolving credit facility matures on December 20, 2021. The term loan facility is subject to amortization in equal quarterly installments, which commenced on March 31, 2017, of principal in an annual aggregate amount equal to 1.0% of the original principal amount of the term loans of $300.0 million, with the remaining outstanding balance payable at the date of maturity.

Voluntary prepayments of principal amounts outstanding under the term loan facility are permitted at any time; however, if a prepayment of principal is made with respect to a Eurodollar loan on a date other than the last day of the applicable interest period, we are required to compensate the lenders for any funding losses and expenses incurred as a result of the prepayment. Prior to the revolving credit facility maturity date, funds borrowed under the revolving credit facility may be borrowed, repaid and reborrowed, without premium or penalty.

In addition, we are required to make mandatory prepayments under the facilities with respect to (i) 100% of the net cash proceeds from certain asset dispositions (including casualty and condemnation events) by us or certain of our subsidiaries, subject to certain exceptions and reinvestment provisions, (ii) 100% of the net cash proceeds from the issuance or incurrence of any additional debt by us or certain of our subsidiaries, subject to certain exceptions, and (iii) 50% of our excess cash flow, as defined in the credit agreement, subject to reduction upon our achievement of specified performance targets.

The facilities are secured by, among other things, a first priority security interest, subject to permitted liens, in substantially all of our assets and all of the assets of certain of our subsidiaries and a pledge of certain of the stock of certain of our subsidiaries, in each case subject to specified exceptions. The facilities contain customary affirmative and negative covenants, including certain restrictions on our ability to pay dividends, and, with respect to the revolving credit facility, a financial covenant requiring us to maintain a specified total net leverage ratio in the event that on the last day of any fiscal quarter we have utilized more than 30% of our borrowing capacity under the facility. We were in compliance with all of the applicable covenants of the facilities as of March 31, 2018 and December 31, 2017. As of March 31, 2018 and December 31, 2017, we had not utilized more than 30% of our borrowing capacity under the revolving credit facility and compliance with the financial covenant was not applicable.

In connection with entering into the facilities in December 2016, we terminated our revolving credit facility with Bank of America. We did not have any outstanding borrowings under the Bank of America revolving credit facility at the time of termination.

Contractual Obligations and Commitments

The following table summarizes our contractual obligations and commitments as of March 31, 2018.

	Payments Due by Period				
	Total	**Less than 1 Year**	**1 to 3 Years**	**4 to 5 Years**	**More than 5 Years**
			(in thousands)		
Debt obligations—Term loans(1)	$ 395,078	$ 15,564	$ 40,770	$ 40,008	$ 298,736
Debt obligations—Commercial mortgage(2)	7,753	417	7,336	—	—
Operating leases(3)	2,609	708	1,352	544	5
Total	$ 405,440	$ 16,689	$ 49,458	$ 40,552	$ 298,741

(1) Amounts in the table reflect the contractually required principal and interest payable pursuant to outstanding borrowings under our term loan facility. For purposes of this table, the interest due under the term loan facility was calculated using an assumed interest rate of 5.88% per annum, which was the interest rate in effect as of March 31, 2018.

(2) Amounts in the table reflect the contractually required principal and interest payable pursuant to outstanding borrowings under our commercial mortgage.

(3) Amounts in the table reflect payments due for our lease of manufacturing, warehouse and office space in the United States, China, Spain and Ireland under non-cancelable operating leases that expire in 2021, 2019, 2023 and 2026, respectively. The Ireland lease provides us the right to terminate in 2021.

We enter into purchase agreements with our contract manufacturers and suppliers, generally with terms of a year or more. We have no minimum purchase requirements under these agreements.

The contractual obligations table above excludes $7.5 million of long term taxes payable recorded as part of a provisional charge in the fourth quarter of 2017 for the mandatory deemed repatriation tax on undistributed earnings of foreign subsidiaries under the TCJA. The deemed repatriation was estimated based on our initial analysis in accordance with

ASC Topic 740, *Income Taxes*, and Staff Accounting Bulletin 118 and is expected to be paid over the next eight years. Given the significant complexity of the TCJA, anticipated guidance from the U.S. Treasury Department about implementing the TCJA and the potential for additional guidance from the SEC or the FASB related to the TCJA or additional information becoming available, our provisional charge may be adjusted during 2018 and is expected to be finalized no later than the fourth quarter of 2018.

Critical Accounting Policies and Significant Judgments and Estimates

We prepare our condensed consolidated financial statements in accordance with generally accepted accounting principles in the United States. The preparation of condensed consolidated financial statements also requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, costs and expenses and related disclosures. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Actual results could differ significantly from the estimates made by our management.

There have been no material changes to our critical accounting policies and estimates from those disclosed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017.

Off-Balance Sheet Arrangements

As of March 31, 2018 and December 31, 2017, we did not have any off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of Regulation S-K, such as the use of unconsolidated subsidiaries, structured finance, special purpose entities or variable interest entities.

Recent Accounting Pronouncements

Refer to the "Summary of Significant Accounting Policies" footnote within our consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for our analysis of recent accounting pronouncements that are applicable to our business.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Market risk is the risk of loss to future earnings, values or future cash flows that may result from changes in the price of a financial instrument. The value of a financial instrument may change as a result of changes in interest rates, exchange rates, commodity prices, equity prices and other market changes. We are exposed to market risk related to changes in foreign currency exchange rates and interest rates. We do not use derivative financial instruments for speculative or trading purposes. However, we have entered into, and in the future expect to continue to enter into, exchange rate hedging arrangements to manage certain of the risks described below.

Foreign Currency Exchange Risk

We have accounts receivables denominated in foreign currencies, and our operations outside of the United States incur their operating expenses in foreign currencies. To date, the majority of our product sales and inventory purchases have been denominated in U.S. dollars. For our subsidiary in Ireland, the U.S. dollar is the functional currency. For each of our other foreign subsidiaries, the functional currency is the local currency. During the three months ended March 31, 2018 and 2017, we incurred foreign currency transaction (losses) gains of $(23,677) and $29,650, respectively, primarily related to unrealized and realized foreign currency (losses) gain for accounts receivables denominated in foreign currencies. These foreign currency transaction (losses) gains were recorded as a component of other income (expense), net in our consolidated statements of operations and comprehensive income. We believe that a 5% change in the exchange rate between the U.S. dollar and euro would not materially impact our operating results or financial position. As of March 31, 2018, we had foreign currency forward contracts outstanding with notional amounts totaling 10.6 million euros that mature in the second, third and fourth quarters of 2018, and we expect to continue to hedge certain significant transactions denominated in currencies other than the U.S. dollar in the future.

Interest Rate Sensitivity

Our cash and cash equivalents as of March 31, 2018 consisted of cash maintained in FDIC-insured operating accounts as well as investments in money market mutual funds, commercial paper and certificates of deposit. We also have policies requiring us to invest in high-quality issuers, limit our exposure to any individual issuer, and ensure adequate liquidity. Our primary exposure to market risk for our cash and cash equivalents is interest income sensitivity, which is primarily affected by changes in the general level of U.S. interest rates. However, we do not believe a sudden change in the interest rates for our cash and cash equivalents would have a material impact on our financial condition, results of operations or cash flows.

We have a credit agreement that provides us with a term loan facility of $300.0 million and a revolving credit facility of up to $25.0 million in revolving credit loans and letters of credit. Borrowings under the facilities bear interest at a floating rate, which can be either a Eurodollar rate plus an applicable margin or, at our option, a base rate (defined as the highest of (x) the JPMorgan Chase, N.A. prime rate, (y) the federal funds effective rate, plus one-half percent (0.50%) per annum and (z) a one-month Eurodollar rate plus 1.00% per annum) plus an applicable margin. The applicable margin for borrowings under the term loan facility is 4.00% per annum for Eurodollar rate loans (subject to a 1.00% per annum interest rate floor) and 3.00% per annum for base rate loans. As a result of the completion of our initial public offering in December 2017, the applicable margin for borrowings under the revolving credit facility is 1.75% per annum for Eurodollar rate loans and 0.75% per annum for base rate loans, subject to reduction based on our maintaining of specified net leverage ratios.

As of March 31, 2018, we had borrowings of $296.3 million outstanding under the term loan facility, bearing interest at a rate of 5.88% per annum, which was based on a one-month Eurodollar rate of 1.88% per annum plus the applicable margin of 4.00% per annum for Eurodollar rate loans. Changes in interest rates could cause interest charges on our term loan facility to fluctuate. Based on the amount of borrowings outstanding as of March 31, 2018, an increase of 10%, or approximately 19 basis points, in the one-month Eurodollar rate as of March 31, 2018 would cause pre-tax decreases to our earnings and cash flows of approximately $0.5 million per year, assuming that such rate were to remain in effect for a year. A decrease of 10%, or approximately 19 basis points, in the one-month Eurodollar rate as of March 31, 2018 would cause pre-tax increases to our earnings and cash flows of approximately $0.5 million, assuming that such rate were to remain in effect for a year.

As of March 31, 2018, we were not exposed to interest rate risk under the revolving credit facility as a result of having no outstanding borrowings under the facility.

Inflation Risk

We do not believe that inflation has had a material effect on our business. However, if global demand for the base materials utilized in our suppliers' components were to significantly increase for the components we purchase from our suppliers to manufacture our products, our costs could become subject to significant inflationary pressures, and we may not be able to fully offset such higher costs through price increases. Our inability or failure to do so could harm our business, operating results and financial condition.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a- 15(e) and 15d- 15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act), as of the end of the period covered by this Quarterly Report on Form 10-Q. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q, our principal executive officer and principal financial officer have concluded that as of such date, our disclosure controls and procedures were effective.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during our most recently completed fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

From time to time, we are a party to various litigation matters and subject to claims that arise in the ordinary course of business including, for example, patent infringement lawsuits by non-practicing entities. In addition, third parties may from time to time assert claims against us in the form of letters and other communications. There is no pending or threatened legal proceeding to which we are a party that, in our opinion, is likely to have a material adverse effect on our financial condition or results of operations. However, litigation is inherently unpredictable. Regardless of the outcome, litigation can adversely affect us because of defense and settlement costs, diversion of management resources and other factors.

Item 1A. Risk Factors.

Our business is subject to numerous risks. The following important factors, among others, could cause our actual results to differ materially from those expressed in forward-looking statements made by us or on our behalf in this Quarterly Report on Form 10-Q and other filings with the Securities and Exchange Commission, or the SEC, press releases, communications with investors, and oral statements. Actual future results may differ materially from those anticipated in our forward-looking statements. We undertake no obligation to update any forward-looking statements, whether as a result of new information, future events, or otherwise.

Risks Related to Our Business and Our Industry

If we do not successfully anticipate technological shifts, market needs and opportunities, and develop new products and product enhancements that meet those technological shifts, needs and opportunities, we may not be able to compete effectively.

The broadband service provider market, including fixed and wireless, is characterized by rapid technological shifts and increasingly complex customer requirements to achieve scalable networks that accommodate rapidly increasing consumer demand for bandwidth. To compete effectively, we must continue to develop new technologies and products that address emerging technological trends and changing customer needs. The process of developing new technology is complex and uncertain, and the development of new offerings requires significant upfront investment that may not result in material improvements to existing products or result in marketable new products or costs savings or revenue for an extended period of time, if at all.

We believe that our culture of innovation is a significant factor in our ability to develop new products. If we are not able to attract and retain employees that are able to contribute to our culture of innovation, our ability to identify emerging technological trends and changing customer needs and successfully develop new products to address them could be adversely impacted.

The success of new products and enhancements also depends on many other factors, including timely completion and introduction, differentiation from products offered by competitors and previous versions of our own products and, ultimately, market acceptance of these new products and enhancements. In addition, new technologies or standards could render our existing products obsolete or less attractive to customers. If we are unable to successfully introduce new products and enhancements, we would not be able to compete effectively and our business, financial condition, results of operations and prospects could be materially adversely affected.

Our success depends in large part on broadband service providers' continued deployment of, and investment in, ultra-broadband network capabilities that make use of our solutions.

A significant portion of our product and solution suite is dedicated to enabling cable service providers to deliver voice, video and data services over newer and faster ultra-broadband networks. As a result, our success depends significantly on these cable service providers' continued deployment of, and investment in, their networks, which depends on a number of factors outside of our control. These factors include capital constraints, the presence of available capacity on legacy networks, perceived subscriber demand for ultra-broadband networks, competitive conditions within the broadband service provider industry and regulatory issues. If broadband service providers do not continue deploying and investing in their ultra-broadband networks in ways that involve our solutions, for these or other reasons, our business, financial condition, results of operations and prospects could be materially adversely affected.

We expect certain of our customers will continue to represent a substantial portion of our revenue.

Historically, certain of our customers have accounted for a significant portion of our revenue. For example, sales to Charter, which purchased Time Warner Cable in 2016, accounted for 27%, 13%, 37%, 23% and 14% of our revenue for the three months ended March 31, 2018 and 2017 and the years ended December 31, 2017, 2016 and 2015, respectively; sales to Liberty Global accounted for 18%, 21%, 11%, 10% and 17% of our revenue for the three months ended March 31, 2018 and 2017 and the years ended December 31, 2017, 2016 and 2015, respectively; sales to Mediacom accounted for 12% of our revenue for the three months ended March 31, 2018; and sales to Videotron accounted for 14% of our revenue for the three months ended March 31, 2017. Based on their historical purchasing patterns, we expect that our large customers will continue to account for a substantial portion of our revenue in future periods. However, our customers generally make purchases from us on a purchase-order basis rather than pursuant to long-term contracts, and those that do enter long-term contracts typically have the right to terminate their contracts for convenience. As a result, we generally have no assurances that these large customers will continue to purchase our solutions. We may also see consolidation of our customer base, which could result in loss of customers. In addition, some of our large customers have used, and may in the future use, the sizes and relative importance of their orders to our business to require that we enter into agreements with more favorable terms than we would otherwise agree to and obtain price concessions. The loss of a significant customer, a significant delay or reduction in purchases by large customers or significant price concessions to one or more large customers, could have a material adverse effect on our business, financial condition, results of operations and prospects.

Timing of large orders and seasonality in our revenue may cause our quarterly revenue and results of operations to fluctuate and possibly decline materially from quarter to quarter.

Our customers tend to make large purchases from us when initiating or upgrading services based on our solutions, followed by smaller purchases for maintenance and ongoing support. In addition, purchases by existing customers of capacity expansions can also involve large individual orders that may represent a significant portion of our revenue for a fiscal quarter, which may also have a significant impact on our quarterly gross margin due to these capacity expansions generating higher gross margins than our initial hardware-based deployments. As a result of all of these factors, our quarterly revenue and results of operations, including our gross margin, may be significantly impacted by one or a small number of large individual orders. For example, any cancellation of orders or any acceleration or delay in anticipated product purchases or the acceptance of shipped products by a large customer could materially affect our revenue and results of operations in any quarterly period. We may be unable to sustain or increase our revenue from other new or existing customers to offset the discontinuation of purchases by one of our larger customers. As a result, our quarterly revenue and results of operations are difficult to estimate and may fluctuate or decline materially from quarter to quarter.

In addition, we believe that there are significant seasonal factors which may cause revenue to be greater for the first and fourth quarters of our fiscal year as compared to the second and third quarters. We believe that this seasonality results from a number of factors, including the procurement, budgeting and deployment cycles of many of our customers. These seasonal variations may cause our quarterly revenue and results of operations to fluctuate or decline materially from quarter to quarter.

Our sales to the broadband service provider market are volatile and our sales cycles can be long and unpredictable. As a result, our sales and revenue are difficult to predict and may vary substantially from period to period, which may cause our revenue and results of operations to fluctuate and possibly decline significantly.

Our sales to the broadband service provider market have been characterized by large and sporadic purchases and long sales cycles. Sales activity often depends upon the stage of completion of expanding network infrastructures, the availability of funding and the extent to which broadband service providers are affected by regulatory, economic and business conditions in the countries in which they operate.

In addition, the timing of our sales and revenue recognition is difficult to forecast because of the unpredictability of our products’ sales cycles. A sales cycle is the period between initial contact with a prospective customer and the sale of our products to that customer. Customer orders often involve the purchase of multiple products. These orders are complex and difficult to obtain because prospective customers generally consider a number of factors over an extended period of time before committing to purchase the products and solutions we sell. Customers, especially in the case of our large customers, often view the purchase of our products as a significant and strategic decision and require considerable time to evaluate, test and qualify our products prior to making a purchase decision and placing an order. The length of time that customers devote to their evaluation, contract negotiation and budgeting processes varies significantly, but can often exceed 24 months. During the sales cycle, we expend significant time and money on sales and marketing activities and make investments in evaluation equipment, all of which are included in our sales and marketing expenses and lower our operating margins, particularly if no sale occurs.

Even if a customer decides to purchase our products, there are many factors affecting the timing of our recognition of revenue, which makes our revenue difficult to forecast. For example, the sale of our products may be subject to acceptance testing or there may be unexpected delays in a customer's internal procurement processes, particularly for some of our larger customers, for whom our products represent a very small percentage of their total procurement activity. These factors may result in our inability to recognize revenue for months or years following a sale. In addition, other factors that are specific to particular customers can affect the timing of their purchases and the variability of our revenue recognition, including the strategic importance of a particular project to a customer, budgetary constraints and changes in their personnel. For all of these reasons, it is difficult to predict whether a sale will be completed, the particular period in which a sale will be completed and the period in which revenue from a sale will be recognized. If our sales cycles lengthen, our revenue could be lower than expected, which could have a material adverse effect on our business, financial condition, results of operations and prospects.

We may not generate positive returns on our research and development investments.

Developing our products is expensive, and the investment in product development may involve a long payback cycle or may result in investments in technologies or standards that do not get adopted in the timeframe we anticipate, or at all. For the three months ended March 31, 2018 and 2017 and the years ended December 31, 2017, 2016 and 2015, our research and development expenses were $20.5 million, or approximately 23.0% of our revenue, $14.5 million, or approximately 19.9% of our revenue, $60.7 million, or approximately 17.3% of our revenue, $49.2 million, or approximately 15.6% of our revenue, and $37.2 million, or approximately 13.6% of our revenue, respectively. We expect to continue to invest heavily in software development in order to expand the capabilities of our broadband and wireless infrastructure solutions, introduce new products and features and build upon our technology leadership, and we expect that our research and development expenses will continue to increase in absolute dollars and as a percentage of revenue from 2017 to 2018. Our investments in research and development may not generate positive returns in a timely fashion or at all.

Our converged cable access platform, or CCAP, solutions currently represent a significant majority of our product sales; this concentration may limit our ability to increase our revenue, and our business would be adversely affected in the event we are unable to sell one or more of our products.

We are heavily dependent upon the sales of our CCAP solutions. In the event we are unable to market and sell these products or any future product that represents a substantial amount of our revenue, our business, financial condition, results of operations and prospects could be materially adversely affected.

We have invested heavily in developing wireless solutions, and we face risks in seeking to expand our platform into the wireless market.

We have invested heavily in developing wireless solutions that have yet to generate any significant revenue. We cannot guarantee that these investments, or any of our other investments in research and development, will ever generate material revenue or become profitable for us, and the failure of these investments to generate positive returns may adversely impact our business, financial condition, results of operations and prospects. The wireless market makes up a substantial portion of our total potential addressable market. In addition, expanding our offerings into the wireless market presents other significant risks and uncertainties, including potential distraction of management from other business operations that generate more substantial revenue, the dedication of significant research and development, sales and marketing, and other resources to this new business line at the expense of our other business operations and other risks that we may not have adequately anticipated.

We believe the broadband service provider industry is in the early stages of a major architectural shift toward the virtualization of networks and the use of networks with distributed architectures. If the architectural shift does not occur, if it does not occur at the pace we predict, or if the products and services we have developed are not attractive to our customers after such shift takes place, our revenues could decline.

We believe the broadband service provider industry is in the early stages of transitioning to the virtualization of networks and the use of networks with distributed architectures. We are developing products and services that we believe will be attractive to our customers and potential customers who make that shift. Our strategy depends in part on our belief that the industry shift to a software-centric cloud-based architecture and increasing densification will continue. In our experience, fundamental changes like this often take time to accelerate and the adoption rates of our customers may vary. As our customers determine their future network architectures and how to implement them, we may encounter delayed timing of orders, deferred purchasing decisions and reduced expenditures. These longer decision cycles and reduced expenditures may negatively impact our revenues, or make it difficult for us to accurately predict our revenues, either of which could materially adversely affect our business, financial condition, results of operations and prospects. Moreover, it is possible that our customers may reverse or fail to expand upon current trends toward virtualization and distributed architectures, which could result in significantly reduced demand for the products that we have developed and currently plan to develop.

We face intense competition, including from larger, well-established companies, and we may lack sufficient financial or other resources to maintain or improve our competitive position.

The market for broadband infrastructure solutions is intensely competitive, and we expect competition to increase in the future from established competitors and new market entrants. This competition could result in increased pricing pressure, reduced profit margins, increased sales and marketing expenses and our failure to increase, or the loss of, market share, any of which could materially adversely affect our business, financial condition, results of operations and prospects.

In the broadband service provider market, we primarily compete with larger and more established companies, such as Arris, Cisco, Ericsson and Nokia.

Many of our existing and potential competitors enjoy substantial competitive advantages, such as:

- greater name recognition and longer operating histories;
- larger sales and marketing budgets and resources;
- broader distribution and established relationships with customers;
- greater access to larger customer bases;
- greater customer support resources;
- greater manufacturing resources;
- the ability to leverage their sales efforts across a broader portfolio of products;
- the ability to leverage purchasing power with vendor subcomponents;
- the ability to incorporate additional functionality into their existing products;
- the ability to bundle offerings with other products and services;
- the ability to set more aggressive pricing policies;
- the ability to offer greater amounts of equity and more valuable equity as incentives for purchases of their products and services;
- lower labor and development costs;
- greater resources to fund research and development or otherwise acquire new product offerings;
- larger intellectual property portfolios; and
- substantially greater financial, technical, research and development or other resources.

Our ability to compete will depend upon our ability to provide a better solution than our competitors at a price that offers superior value. We may be required to make substantial additional investments in research, development, sales and marketing in order to respond to competition.

We also expect increased competition if our market continues to expand. Conditions in our market could change rapidly and significantly as a result of technological advancements or other factors. Current or potential competitors may be acquired by third parties that have greater resources available than we do. Our current or potential competitors might take advantage of the greater resources of the larger organizations resulting from these acquisitions to compete more vigorously or broadly with us. In addition, continued industry consolidation might adversely affect customers’ perceptions of the viability of smaller and even medium-sized companies, such as us, and, consequently, customers’ willingness to purchase from us. Further, certain large customers may develop broadband infrastructure solutions for internal use and/or to broaden their portfolios of internally developed resources, which could allow these customers to become new competitors in our market.

If we are unable to sell additional products to our existing customers, our revenue growth will be adversely affected and our revenue could decline.

To increase our revenue, we must sell additional products to our existing customers and add new customers. We expect that a substantial portion of our future sales will be follow-on sales to existing customers. For example, one of our sales strategies is to target sales of capacity expansions and implementation of wireless solutions at our current cable customers because they are familiar with the operational and economic benefits of our solutions. However, our existing customers may choose to use other providers for their infrastructure needs. If we fail to sell additional products to our existing customers, our business, financial condition, results of operations and prospects could be materially adversely affected.

We may have difficulty attracting new large customers or acquiring new customers due to the high costs of switching broadband equipment.

Broadband service providers typically need to make substantial investments when deploying network infrastructure, which can delay a purchasing decision. Once a broadband service provider has deployed infrastructure for a particular portion of its network, it is often difficult and costly to switch to another vendor’s infrastructure. Unless we are able to demonstrate that our products offer significant performance, functionality or cost advantages that outweigh a customer’s expense of switching from a competitor’s product, it will be difficult for us to generate sales once that competitor’s equipment has been deployed. Accordingly, if a customer has already deployed a competitor’s product for its broadband infrastructure, it may be difficult for us to sell our products to that customer. If we fail to attract new large customers or acquire new customers, our business, financial condition, results of operations and prospects could be materially adversely affected.

We are exposed to the credit risk of some of our customers and to credit exposures in the event of turmoil in the credit markets, which could result in material losses.

Due to our reliance on significant customers, we are dependent on the continued financial strength of these customers. If one or more of our significant customers experience financial difficulties, it could result in uncollectable accounts receivable and our loss of such customers and anticipated revenue.

The majority of our sales are on an open credit basis, with typical payment terms of one year or less. We monitor individual customer payment capability in granting such open credit arrangements, seeking to limit such open credit to amounts we believe our customers can pay and maintain reserves we believe are adequate to cover exposure for doubtful accounts. However, there can be no assurance that our open credit customers will pay the amounts they owe to us or that the reserves we maintain will be adequate to cover such credit exposure. Our customers’ failure to pay and/or our failure to maintain sufficient reserves could have a material adverse effect on our consolidated financial statements. In addition, in the event that turmoil in the credit markets makes it more difficult for some customers to obtain financing, those customers’ ability to pay could be adversely impacted, which in turn could have a material adverse impact on our business and operations.

A portion of our sales is also derived through our resellers, which tend to have more limited financial resources than other customers and to present increased credit risk. Our resellers also typically have the ability to terminate their agreements with us for any reason upon advance written notice.

We are exposed to fluctuations in currency exchange rates, which could adversely affect our business, financial condition, results of operations and prospects.

Our sales agreements are primarily denominated in U.S. dollars. Therefore, a strengthening U.S. dollar could increase the real cost of our products to our customers outside of the U.S., and alternatively a decrease in the value of the U.S. dollar relative to foreign currencies could increase our product and operating costs in foreign locations. If we are not able to successfully hedge against the risks associated with the currency fluctuations, our business, financial condition, results of operations and prospects could be materially adversely affected.

We generate a significant amount of revenue from sales to customers outside of the United States, and we are therefore subject to a number of risks associated with international sales and operations.

We have extensive international operations and generate a significant amount of revenue from sales to customers in Asia-Pacific, Europe and the Latin America. Our ability to grow our business and our future success will depend to a significant extent on our ability to continue to expand our operations and customer base worldwide.

As a result of our international reach, we must hire and train experienced personnel to staff and manage our foreign operations. To the extent that we experience difficulties in recruiting, training, managing and retaining an international staff, and specifically staff related to sales management and sales personnel, we may experience difficulties in sales productivity in foreign markets. We also enter into strategic relationships with resellers and sales agents in certain international markets where we do not have a local presence. If we are not able to maintain these relationships or to recruit additional companies to enter into reseller and sales agent relationships, our future success in these international markets could be limited. Business practices in the international markets that we serve may differ from those in the U.S. and may require us in the future to include terms other than our standard terms in customer contracts. To the extent that we may enter into customer contracts in the future that include non-standard terms related to payment, warranties or performance obligations, our business, financial condition, results of operations and prospects could be materially adversely affected.

Our international sales and operations are subject to a number of risks, including the following:

- greater risk of unexpected changes in regulatory practices, tariffs and tax laws and treaties;
- greater difficulty in enforcing contracts and accounts receivable collection and longer collection periods;
- increased expenses incurred in establishing and maintaining our international operations;
- fluctuations in exchange rates between the U.S. dollar and foreign currencies where we do business;
- greater difficulty and costs in recruiting local experienced personnel;
- wage inflation in certain growing economies;
- general economic and political conditions in these foreign markets;
- economic uncertainty around the world as a result of sovereign debt issues;
- communication and integration problems resulting from cultural and geographic dispersion;
- limitations on our ability to access cash resources in our international operations;
- ability to establish necessary business relationships and to comply with local business requirements;
- risks associated with trade restrictions and foreign legal requirements, including the importation, certification and localization of our products required in foreign countries;
- the uncertainty of protection for intellectual property rights in some countries;
- delays resulting from our need to comply with foreign cybersecurity laws;
- greater risk of a failure of our operations and employees to comply with both U.S. and foreign laws and regulations, including antitrust regulations, the FCPA, privacy and data protection laws and regulations and any trade regulations ensuring fair trade practices; and
- heightened risk of unfair or corrupt business practices in certain geographies and of improper or fraudulent sales arrangements that may impact financial results and result in restatements of, or irregularities in, financial statements.

These and other factors could harm our ability to gain future international revenue and, consequently, materially adversely affect our business, financial condition, results of operations and prospects. Expanding our existing international operations and entering into additional international markets will require significant management attention and financial commitments. Our failure to successfully manage our international operations and the associated risks effectively could limit our future growth or materially adversely affect our business, financial condition, results of operations and prospects.

We are subject to anti-corruption laws such as the U.S. Foreign Corrupt Practices Act of 1977, as amended.

We are subject to anti-corruption laws such as the U.S. Foreign Corrupt Practices Act of 1977, as amended, or the FCPA, which generally prohibits U.S. companies and their employees and intermediaries from making corrupt payments to foreign officials for the purpose of obtaining or keeping business, securing an advantage or directing business to another individual or entity, and requires companies to maintain accurate books and records. Under the FCPA, U.S. companies may be held liable for the corrupt actions taken by directors, officers, employees, agents, or other strategic or local partners or representatives. We rely on non-employee third-party representatives and other intermediaries to develop international sales opportunities, and generally have less direct control over such third parties’ actions taken on our behalf. If we or our intermediaries fail to comply with the requirements of the FCPA or similar legislation, governmental authorities in the United States and elsewhere could seek to impose civil and/or criminal fines and penalties, which could have a material adverse effect on our business, reputation, results of operations and financial condition. We intend to increase our international sales and business and, as such, the cost of complying with such laws, and the potential harm from our noncompliance, are likely to increase.

Failure to comply with anti-corruption laws, such as the FCPA and the United Kingdom Bribery Act 2010, or the Bribery Act, and similar laws associated with our activities outside the U.S., could subject us to penalties and other adverse consequences. Any violation of the FCPA, Bribery Act or similar laws could result in whistleblower complaints, adverse media coverage, investigations, loss of export privileges, severe criminal or civil sanctions suspension or debarment from U.S. government contracts, all of which could have a material adverse effect on our reputation, business, results of operations and prospects. In addition, responding to any enforcement action or related investigation may result in a materially significant diversion of management's attention and resources and significant defense costs and other professional fees.

We are subject to governmental export and import controls that could impair our ability to compete in international markets or subject us to liability if we violate these controls.

Our products may be subject to various export controls and because we incorporate encryption technology into certain of our products, certain of our products may be exported from various countries only with the required export license or through an export license exception. Furthermore, certain export control and economic sanctions laws prohibit the shipment of certain products, technology, software and services to embargoed countries and sanctioned governments, entities, and persons. If we fail to comply with the applicable export control laws, customs regulations, economic sanctions or other applicable laws, we could be subject to monetary damages or the imposition of restrictions which could materially adversely affect our business, financial condition, results of operations and prospects and could also harm our reputation. Further, there could be criminal penalties for knowing or willful violations, including incarceration for culpable employees and managers. Obtaining the necessary export license or other authorization for a particular sale may be time-consuming and may result in the delay or loss of sales opportunities. We previously disclosed that we may have inadvertently violated certain technical provisions of the U.S. export control laws and regulations by failing to inform customers of their export control obligations and failing to make certain submissions to the Commerce Department's Bureau of Industry and Security, or BIS, in a timely and complete manner. However, we believe that the exports of our products were all to destinations and end users that would not have required licensing under the U.S. export control and sanctions laws. We voluntarily disclosed the potential technical violations to BIS, and on March 27, 2018, we were notified by BIS that it would not be imposing a penalty regarding this matter.

In addition, various countries regulate the import of certain encryption technology and products, including through import permit and license requirements, and have enacted laws that could limit our ability to distribute our products or could limit our customers' ability to implement our products in those countries. Any change in export or import regulations, economic sanctions or related legislation, shift in the enforcement or scope of existing regulations or change in the countries, governments, persons or technologies targeted by such regulations could result in decreased use of our products by, or in our decreased ability to export or sell our products to, existing or potential customers with international operations or create delays in the introduction of our products into international markets. Any decreased use of our products or limitation on our ability to export or sell our products could materially adversely affect our business, financial condition, results of operations and prospects.

Our revenue growth rate in recent periods may not be indicative of our future performance.

Our revenue growth rate in recent periods may not be indicative of our future performance. Our revenue grew 16.0% from the year ended December 31, 2015 to the year ended December 31, 2016, grew 11.2% from the year ended December 31, 2016 to the year ended December 31, 2017 and grew 22.5% from the three months ended March 31, 2017 to the three months ended March 31, 2018. We may not achieve similar revenue growth rates in future periods. You should not rely on our revenue for any prior quarterly or annual period as any indication of our future revenue or revenue growth. If we are unable to maintain consistent revenue or revenue growth, our business, financial condition, results of operations and prospects could be materially adversely affected.

As the majority of the growth in our revenue and income from operations has occurred since 2013, it is difficult to evaluate our future prospects.

We were founded in 2003 and booked our first revenue in 2006. The majority of the growth in our revenue and income from operations has occurred since 2013, and it is difficult to evaluate our future prospects, including our ability to plan for and manage future growth. We have encountered and will continue to encounter risks and difficulties frequently experienced by rapidly growing companies in constantly evolving industries, including the risks described in this Quarterly Report on Form 10-Q. If we do not address these risks successfully, our business, financial condition, results of operations and prospects could be materially adversely affected, and the market price of our common stock could decline.

Our products are necessary for the operation of our customers' broadband service operations. Product quality problems, warranty claims, services disruptions, or other defects, errors or vulnerabilities in our products or services could harm our reputation and materially adversely affect our business, financial condition, results of operations and prospects.

We assist our customers in the operation of their broadband service operations. Failures of our products could result in significant interruptions in our customers' capabilities to maintain their networks and operations. Further, unsatisfactory performance could cause us to lose revenue or market share, increase our service costs, cause us to incur substantial costs in analyzing, correcting or redesigning our products, cause us to lose significant customers, subject us to liability for damages and divert our resources from other tasks, any one of which could materially adversely affect our business, financial condition, results of operations and prospects.

In addition, sophisticated hardware and operating system software and applications that we produce or procure from third parties may contain defects in design or manufacture, including "bugs" and other problems that could unexpectedly interfere with the operation of our networks, system, or products. Such defects could result in warranty claims or claims by customers for losses that they sustain or, in some cases, could allow customers to claim damages. In the past, we have had to replace certain components of products that we had shipped or provide remediation in response to the discovery of defects or bugs from failures in software protocols.

Limitation of liability provisions in our standard terms and conditions of sale, and those of our resellers and sales agents, may not be enforceable under some circumstances or may not fully or effectively protect us from end-customer claims and related liabilities and costs. In some cases, including with respect to indemnification obligations under many of our agreements with customers and resellers, our contractual liability may be uncapped. The sale and support of our products also entail the risk of product liability claims. We maintain insurance to protect against certain types of claims associated with the use of our products, but our insurance coverage may not adequately cover any such claims. In addition, even claims that ultimately are unsuccessful could result in expenditures of funds in connection with litigation and divert management's time and other resources.

Our products must interoperate with operating systems, software applications and hardware, and comply with industry standards, that are developed by others, and if we are unable to devote the necessary resources for our products to interoperate with such software and hardware and comply with such standards, we may lose or fail to increase market share and experience a weakening demand for our products.

Generally, our products comprise only a part of and must interoperate with our customers' existing infrastructure, specifically their networks, servers, software and operating systems, which may be manufactured by a wide variety of vendors and original equipment manufacturers. Our products must also comply with industry standards, such as Data Over Cable Service Interface Specification, or DOCSIS, 3.0 and 3.1, which are established by third parties, in order to interoperate with such servers, storage, software and other networking equipment such that all systems function efficiently together. We may depend on other vendors to support prevailing industry standards. Also, some industry standards may not be widely adopted or implemented uniformly, and competing standards and other approaches may emerge that may be preferred by our customers.

In addition, when new or updated versions of these industry standards, software systems or applications are introduced, we must sometimes develop updated versions of our software so that our products will interoperate properly. We may not accomplish these development efforts quickly, cost-effectively or at all. These development efforts require capital investment and the devotion of engineering resources. If we fail to maintain compatibility with these systems and applications, our customers may not be able to adequately utilize our products, and we may lose or fail to increase market share and experience a weakening in demand for our products, among other consequences, which could materially adversely affect our business, financial condition, results of operations and prospects.

Our ability to sell our products is highly dependent on the quality of our support and services offerings, and our failure to offer high-quality support and services could have a material adverse effect on our business, financial condition, results of operations and prospects.

Once our products are deployed within our customers' networks, our customers depend on our support organization to resolve any issues relating to our products. Our provision of high-quality support is critical for the successful marketing and sale of our products. If we do not assist our customers in deploying our products effectively, do not succeed in helping our customers resolve post-deployment issues quickly or do not provide adequate ongoing support, it could adversely affect our ability to sell our products to existing customers and could harm our reputation with potential customers. In addition, our standard sales contracts require us to provide minimum service requirements to our customers on an ongoing basis and our failure to satisfy these requirements could expose us to claims under these contracts. Our failure to maintain high-quality support and services, including compliance with our contractual minimum service obligations, could have a material adverse effect on our business, financial condition, results of operations and prospects.

We base our inventory requirements on our forecasts of future sales. If these forecasts are materially inaccurate, we may procure inventory that we may be unable to use in a timely manner or at all.

We and our contract manufacturers procure components and build our products based on our forecasts. These forecasts are based on estimates of future demand for our products, which are in turn based on historical trends and analyses from our sales and marketing organizations, adjusted for overall market conditions. To the extent our forecasts are materially inaccurate or if we otherwise do not need such inventory, we may under- or over-procure inventory, and such inaccuracies in our forecasts could subject us to contractual damages and otherwise materially adversely affect our business, financial condition, results of operations and prospects.

Because we depend on third-party manufacturers to build our hardware, we are susceptible to manufacturing delays and pricing fluctuations that could prevent us from delivering customer orders on time, if at all, or on a cost-effective basis, which may result in the loss of sales and customers.

We depend on third-party contract manufacturers to manufacture our product hardware. A significant portion of our cost of revenue consists of payments to these third-party contract manufacturers. Our reliance on these third-party contract manufacturers reduces our control over the manufacturing process, quality assurance, product costs and product supply and timing, which exposes us to risk. To the extent that our products are manufactured at facilities in foreign countries, we may be subject to additional risks associated with complying with local rules and regulations in those jurisdictions. If we are unable to manage our relationships with our third-party contract manufacturers effectively, or if these third-party manufacturers suffer delays or disruptions for any reason, experience increased manufacturing lead times, capacity constraints or quality control problems in their manufacturing operations or fail to meet our future requirements for timely delivery, our ability to ship products to our customers would be severely impaired, and our business, financial condition, results of operations and prospects could be materially adversely affected.

Our contract manufacturers typically fulfill our supply requirements on the basis of individual orders. We do not have long-term contracts with our third-party manufacturers that guarantee capacity, the continuation of particular pricing terms or the extension of credit limits. Accordingly, they are not obligated to continue to fulfill our supply requirements, which could result in supply shortages, and increases in the prices for manufacturing services on short notice. We may not be able to develop alternate contract manufacturers in a timely manner, or at all. If we add or change contract manufacturers, or change any manufacturing plant locations within a contract manufacturer network, we would add additional complexity and risk to our supply chain management.

In addition, we may be subject to significant challenges in ensuring that quality, processes and costs, among other issues, are consistent with our expectations and those of our customers. A new contract manufacturer or manufacturing location may not be able to scale its production of our products at the volumes or quality we require. This could also adversely affect our ability to meet our scheduled product deliveries to our customers, which could damage our customer relationships and cause the loss of sales to existing or potential customers, late delivery penalties, delayed revenue or an increase in our costs which could adversely affect our gross margins. This could also result in increased levels of inventory subjecting us to increased excess and obsolete charges that could have a negative impact on our results of operations.

Because some of the key components in our products come from limited sources of supply, we are susceptible to supply shortages or supply changes, which could disrupt or delay our scheduled product deliveries to our customers and may result in the loss of sales and customers.

Our products rely on key components that our contract manufacturers purchase on our behalf from a limited number of suppliers, including Altera, Analog Devices, Bell Power, Broadcom, Maxim, Mini-Circuits, Qorvo, TTM Technologies and Xilinx. We do not have guaranteed supply contracts with any of our component suppliers, and our suppliers could delay shipments or cease manufacturing such products or selling them to us at any time. The development of alternate sources for those components is time-consuming, difficult and costly. If we are unable to obtain a sufficient quantity of these components on commercially reasonable terms or in a timely manner, sales of our products could be delayed or halted entirely or we may be required to redesign our products. Any of these events could result in lost sales and damage to our customer relationships, which would adversely impact our business, financial condition, results of operations and prospects. In the event of a shortage or supply interruption from our component suppliers, we may not be able to develop alternate or second sources in a timely manner, on commercially reasonable terms or at all. In addition, certain of our customer contracts require us to notify our customers of any discontinuation of the products that we supply to them and to provide support for discontinued products, and lack of supply from our suppliers could leave us unable to fulfill our customer support obligations. Adverse changes to our relationships with our sole suppliers could result in lost sales and damage to our customer relationships, which would adversely impact our business, financial condition, results of operations and prospects.

We rely on resellers and sales agents to sell our products into certain international markets, and the loss of such resellers and sales agents could delay or harm our ability to deliver our products to our customers.

We rely upon resellers and sales agents to coordinate sales and distribution of our products in certain international markets. We provide our resellers and sales agents with specific training and programs to assist them in selling our products, but these steps may not be effective. In addition, our resellers and sales agents may be unsuccessful in marketing, selling and supporting our products and services. If we are unable to develop and maintain effective sales incentive programs for our resellers and sales agents, we may not be able to incentivize these resellers and sales agents to sell our products to customers. Any of our resellers and sales agents could elect to consolidate or enter into a strategic partnership with one of our competitors, which could reduce or eliminate our future opportunities with that reseller or sales agent. Our agreements with our resellers and sales agents may generally be terminated for any reason by either party with advance notice. We may be unable to retain these resellers and sales agents or secure additional or replacement resellers and sales agents. The replacement of one or more of our significant resellers or sales agents requires extensive training, and any new or expanded relationship with a reseller or sales agent may take several months or more to achieve productivity. Any of these events could materially adversely affect our business, financial condition, results of operations and prospects.

Our business and operations have experienced rapid growth in recent years, and if we do not appropriately manage any future growth or are unable to improve our systems and processes, our business, financial condition, results of operations and prospects will be adversely affected.

We have experienced rapid growth and increased demand for our products in recent years, which have placed a strain on our management, administrative, operational and financial infrastructure. For example, our revenue increased from $272.5 million for the year ended December 31, 2015 to $316.1 million for the year ended December 31, 2016 and to $351.6 million for the year ended December 31, 2017 and from $72.7 million for the three months ended March 31, 2017 to $89.1 million for the three months ended March 31, 2018. To handle this growth and increase in demand, we have significantly expanded our headcount, from 481 as of December 31, 2015 to 604 as of December 31, 2016 to 680 as of December 31, 2017 and to 698 as of March 31, 2018, and we expect to continue to increase our headcount. As we have grown, we have had to manage an increasingly larger and more complex array of internal systems and processes to scale with all aspects of our business, including our software development, contract manufacturing and purchasing, logistics and fulfillment and sales, maintenance and support. Our success will depend in part upon our ability to manage our growth effectively. To do so, we must continue to increase the productivity of our existing employees and continue to hire, train and manage new employees as needed. To manage domestic and international growth of our operations and personnel, we will need to continue to improve our operational, financial and management controls and our reporting processes and procedures and implement more extensive and integrated financial and business information systems. We may not be able to successfully implement these or other improvements to our systems and processes in an efficient or timely manner, and we may discover deficiencies in their capabilities or effectiveness. Our failure to improve our systems and processes, or their failure to operate effectively and in the intended manner, may result in disruption of our current operations and customer relationships, our inability to manage the growth of our business and our inability to accurately forecast our revenue, expenses and earnings.

If we are unable to hire, retain, train and motivate qualified personnel and senior management, including in particular our founders, our business, financial condition, results of operations and prospects could be adversely affected.

Our future success depends, in part, on our ability to continue to attract and retain highly skilled personnel, particularly software engineering and sales personnel. Competition for highly skilled personnel is often intense, particularly in the greater Boston region where we are headquartered, and we may not be able to attract and retain the highly skilled employees that we need to support our business. Many of the companies with which we compete for experienced personnel have greater resources than we have to provide more attractive compensation packages and other amenities. Research and development personnel are aggressively recruited by startup and growth companies, which are especially active in many of the technical areas and geographic regions in which we conduct product development. In addition, in making employment decisions, particularly in the high-technology industry, job candidates often consider the value of the stock-based compensation they are to receive in connection with their employment. Declines in the market price of our stock could adversely affect our ability to attract, motivate or retain key employees. If we are unable to attract or retain qualified personnel, or if there are delays in hiring required personnel, our business, financial condition, results of operations and prospects could be materially adversely affected.

Also, to the extent we hire personnel from competitors, or from certain customers or other third parties whose employees we have agreed not to solicit, we may be subject to allegations that such personnel have been improperly solicited, that such personnel have divulged proprietary or other confidential information or that former employers own certain inventions or other work product. Such claims could result in litigation.

Our future performance also depends on the continued services and continuing contributions of our founders and senior management to execute our business plan and to identify and pursue new opportunities and product innovations. Our employment arrangements with our employees do not require that they continue to work for us for any specified period, and therefore, they could terminate their employment with us at any time. In particular, the loss of Jerry Guo, our President and Chief Executive Officer, and Weidong Chen, our Chief Technology Officer, could have a material adverse impact on our business. Further, the loss of other members of our senior management team, sales and marketing team or engineering team, or any difficulty attracting or retaining other highly qualified personnel in the future, could significantly delay or prevent the achievement of our development and strategic objectives, which could materially adversely affect our business, financial condition, results of operations and prospects. Except with respect to Mr. Guo, we do not maintain "key person" life insurance on our officers, directors or key employees.

If we do not effectively expand and train our direct sales force, we may be unable to increase sales to our existing customers or add new customers, and our business will be adversely affected.

We depend on our direct sales force to increase sales with existing customers and to obtain new customers. As such, we have invested and will continue to invest substantially in our sales organization. In recent periods, we have been adding personnel to our sales function as we focus on growing our business, entering new markets and increasing our market share, and we expect to incur significant additional expenses in expanding our sales personnel in order to achieve revenue growth. There is significant competition for sales personnel with the skills and technical knowledge that we require. Our ability to achieve significant revenue growth will depend, in large part, on our success in recruiting, training, retaining and integrating sufficient numbers of sales personnel to support our growth, particularly in international markets. In addition, we have significantly increased the number of personnel in our sales and marketing departments in recent periods, with headcount growing from 94 as of December 31, 2015 to 114 as of December 31, 2016, to 122 as of December 31, 2017 and to 130 as of March 31, 2018. New hires require significant training and may take significant time before they achieve full productivity. Our recent hires and planned hires may not become productive as quickly as we expect, and we may be unable to hire, retain or integrate into our corporate culture sufficient numbers of qualified individuals in the markets where we do business or plan to do business. If we are unable to hire, integrate and train a sufficient number of effective sales personnel, or the sales personnel we hire are not successful in obtaining new customers or increasing sales to our existing customer base, our business, financial condition, results of operations and prospects could be materially adversely affected.

Adverse economic conditions or reduced broadband infrastructure spending may adversely affect our business, financial condition, results of operations and prospects.

Our business depends on the overall demand for broadband connectivity. Weak domestic or global economic conditions, fear or anticipation of such conditions or a reduction in broadband infrastructure spending even if economic conditions improve, could materially adversely affect our business, financial condition, results of operations and prospects in a number of ways, including longer sales cycles, lower prices for our products and services, reduced sales and lower or no growth. Continued turmoil in the geopolitical environment in many parts of the world may also affect the overall demand for our products and services. Deterioration in global economic or political conditions could materially adversely affect our business, financial condition, results of operations and prospects in the future. A prolonged period of economic uncertainty or a downturn may also significantly affect the availability of capital and the terms and conditions of financing arrangements, including the overall cost of financing as well as the financial health or creditworthiness of our customers. Circumstances may arise in which we need, or desire, to raise additional capital, and such capital may not be available on commercially reasonable terms, or at all.

Breaches of our cybersecurity systems and measures could degrade our ability to conduct our business operations and deliver products and services to our customers, delay our ability to recognize revenue, compromise the integrity of our products, result in significant data losses and the theft of our intellectual property, damage our reputation, expose us to liability to third parties and require us to incur significant additional costs to maintain the security of our networks and data.

We increasingly depend upon our IT systems to conduct virtually all of our business operations, ranging from our internal operations and product development activities to our marketing and sales efforts and communications with our customers and business partners. Certain persons and entities may attempt to penetrate our network and systems, or of the systems hosting our website, and may otherwise seek to misappropriate our proprietary or confidential information or cause interruptions of our service. Because the techniques used by such persons and entities to access or sabotage networks and systems change frequently and may not be recognized until launched against a target, we may be unable to anticipate these techniques. We have also outsourced a number of our business functions to third-parties, including our manufacturers and logistics providers, and our business operations also depend, in part, on the success of these third parties' own cybersecurity measures. Additionally, we depend upon our employees and independent contractors to appropriately handle confidential data and deploy our IT resources in a safe and secure fashion that does not expose our network systems to security breaches and the loss of data. Accordingly, if any of our cybersecurity systems, processes or policies, or those of any of our manufacturers, logistics providers, customers or independent contractors fail to protect against unauthorized access, sophisticated hacking or terrorism and the mishandling, misuse, or misappropriation of data by employees, contractors or other persons or entities, our ability to conduct our business effectively could be damaged in a number of ways, including:

- sensitive data regarding our business, including intellectual property, personal information and other confidential and proprietary data, could be stolen;
- our electronic communications systems, including email and other methods, could be disrupted, and our ability to conduct our business operations could be seriously damaged until such systems can be restored;
- our ability to process customer orders and electronically deliver products and services could be degraded, and our distribution channels could be disrupted, resulting in delays in revenue recognition, damage to our relationships with customers and prospective customers and damage to our reputation;
- defects and security vulnerabilities could be introduced into our software, products, network and systems, thereby damaging our reputation and perceived reliability and security of our products and potentially making the systems of our customers vulnerable to data loss and cyber incidents; and
- personally identifiable data relating to various parties, including end users, employees and business partners could be compromised.

Should any of the above events occur, we could be subject to significant claims for liability from our customers, employees or others and regulatory investigations or actions from governmental agencies. In addition, our ability to protect our intellectual property rights could be compromised and our reputation and competitive position could be significantly harmed. Any regulatory, contractual or other actions, litigations, investigations, fines, penalties and liabilities relating to any actual or alleged misuse or misappropriation of personal data or other confidential or proprietary information could be significant in terms of monetary exposure and reputational impact and necessitate changes to our business operations that may be disruptive to us. Additionally, we could incur significant costs in order to upgrade our cybersecurity systems, processes, policies and procedures and remediate damages. Consequently, our financial performance and results of operations could be materially adversely affected.

If we are unable to obtain, maintain or protect our intellectual property rights, our competitive position could be harmed or we could be required to incur significant expenses to enforce our rights.

Our success depends, in part, on our ability to protect our proprietary technology. We rely on trade secret, patent, copyright and trademark laws and confidentiality agreements with employees and third parties to protect and enforce our rights to our proprietary technology, all of which offer only limited protection.

In order to protect our proprietary information, we rely in significant part on confidentiality arrangements with our employees, licensees, independent contractors, advisers and customers. These arrangements may not be effective to prevent disclosure of confidential information, including trade secrets, and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. In addition, if others independently discover our trade secrets, we would not be able to assert trade secret rights against such parties. Effective trade secret protection may not be available in every country in which our services are available or where we have employees or independent contractors. The loss or unavailability of trade secret protection could make it easier for third parties to compete with our products by copying functionality. In addition, any changes in, or unexpected interpretations of, the trade secret and employment laws in any country in which we operate may compromise our ability to enforce our intellectual property rights. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

We also rely on patents to protect certain aspects of our proprietary technology in the United States. The process of obtaining patent protection is expensive and time-consuming, and we may not be able to prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. We may choose not to seek patent protection for certain innovations and may choose not to pursue patent protection in certain jurisdictions. Further, we cannot guarantee that any of our pending patent applications will result in the issuance of patents or that any patents that do issue from such applications will have adequate scope to provide us with a competitive advantage. There is no assurance that all potentially relevant prior art relating to our patents and patent applications has been found. To the extent that additional patents are issued from our patent applications, which is not certain, third parties may challenge their validity, enforceability or scope, which may result in such patents being narrowed or invalidated. If third parties have prepared and filed patent applications in the United States that also claim technology to which we have rights, we may have to participate in interference proceedings in the United States Patent and Trademark Office to determine priority of invention for patent applications filed before March 16, 2013, or in derivation proceedings to determine inventorship for patent applications filed after such date. In addition, patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after its effective filing date. Even if patents covering our products are obtained by us or by our licensors, once such patents expire, we may be vulnerable to competition from similar products. Moreover, the rights granted under any issued patents may not provide us with adequate protection or competitive advantages, and, as with any technology, competitors may be able to develop similar or superior technologies to our own now or in the future.

Despite our efforts, the steps we have taken to protect our proprietary rights may not be adequate to preclude misappropriation of our proprietary information or infringement of our intellectual property rights, and our ability to police such misappropriation or infringement is uncertain, particularly in countries outside of the United States. Competitors may use our technologies in jurisdictions where we have not obtained or are unable to adequately enforce intellectual property protection to develop their own products. We are also restricted from asserting our intellectual property rights against certain customers under our contracts with them.

Detecting and protecting against the unauthorized use of our products, technology and proprietary rights is expensive, difficult and, in some cases, impossible. Litigation may be necessary in the future to enforce or defend our intellectual property rights, to protect our trade secrets or to determine the validity and scope of the proprietary rights of others. Such litigation could result in substantial costs and diversion of management resources, either of which could materially adversely affect our business, financial condition, results of operations and prospects, and there is no guarantee that we would be successful. Furthermore, many of our current and potential competitors have the ability to dedicate substantially greater resources to protecting their technology or intellectual property rights than we do. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing upon or misappropriating our intellectual property, which could result in a substantial loss of our market share. Even if we did succeed in enforcing our intellectual property through litigation, this may be costly and divert management resources.

Finally, certain of our license agreements with our third-party licensors provide for joint ownership of developments or inventions that we create that are related to the subject matter of the license. Other agreements to which we are subject, including member agreements with standards bodies and research and development consortia, may require us to disclose and/or grant licenses to technology that is related to the subject matter of the standards body or the consortium and included in our contributions to specifications established by these bodies. These agreements could result in third parties having ownership or license rights to important intellectual property that we otherwise may have elected to maintain exclusive ownership of.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

We have not applied for trademark registration for our name and logo in all geographic markets. In those markets where we have applied for trademark registration, failure to secure those registrations could adversely affect our ability to enforce and defend our trademark rights and result in indemnification claims. Our registered or unregistered trademarks or trade names, as well as the registered or unregistered trademarks or trade names used by our resellers or distributors associated with our products, may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. Any claim of infringement by a third party, even those claims without merit, could cause us to incur substantial costs defending against such claim, could divert management attention from our business and could require us to cease use of such intellectual property in certain geographic markets. Over the long term, if we, or our resellers or distributors, are unable to establish name recognition based on our trademarks and trade names, then our business may be adversely affected.

Assertions by third parties of infringement or other violations by us of their intellectual property rights, or other lawsuits asserted against us, could result in significant costs and materially adversely affect our business, financial condition, results of operations and prospects.

Patent and other intellectual property disputes are common in the broadband infrastructure industry and have resulted in protracted and expensive litigation for many companies. Many companies in the broadband infrastructure industry, including our competitors and other third parties, as well as non-practicing entities, own large numbers of patents, copyrights, trademarks and trade secrets, which they may use to assert claims of patent infringement, misappropriation or other violations of intellectual property rights against us. From time to time, they have or may in the future also assert such claims against our customers whom we typically indemnify against claims that our products infringe, misappropriate or otherwise violate the intellectual property rights of third parties.

As the number of products and competitors in our market increases and overlaps occur, claims of infringement, misappropriation and other violations of intellectual property rights may increase. Any claim of infringement, misappropriation or other violations of intellectual property rights by a third party, even those without merit, could cause us to incur substantial costs defending against the claim, distract our management from our business and require us to cease use of such intellectual property, which may impact important elements of our business. In addition, some claims for patent infringement may relate to subcomponents that we purchase from third parties. If these third parties are unable or unwilling to indemnify us for these claims, we could be substantially harmed.

The patent portfolios of most of our competitors are larger than ours. This disparity may increase the risk that our competitors may sue us for patent infringement and may limit our ability to counterclaim for patent infringement or settle through patent cross-licenses. In addition, future assertions of patent rights by third parties, and any resulting litigation, may involve patent holding companies or other adverse patent owners who have no relevant product revenue and against whom our own patents may therefore provide little or no deterrence or protection. We cannot guarantee that we are not infringing or otherwise violating any third-party intellectual property rights.

The third-party asserters of intellectual property claims may be unreasonable in their demands, or may simply refuse to settle, which could lead to expensive settlement payments, prolonged periods of litigation and related expenses, additional burdens on employees or other resources, distraction from our business, supply stoppages and lost sales. Moreover, in recent years, individuals and groups that are non-practicing entities, commonly referred to as “patent trolls,” have purchased patents and other intellectual property assets for the purpose of making claims of infringement in order to extract settlements. In the past, we have received threatening letters or notices and have been the subject of claims that our solutions and underlying technology infringe or violate the intellectual property rights of others. Responding to such claims, regardless of their merit, can be time-consuming, costly to defend in litigation, divert management’s attention and resources, damage our reputation and brand, and cause us to incur significant expenses.

An adverse outcome of a dispute may require us to pay substantial damages including treble damages if we are found to have willfully infringed a third party’s patents; cease making, licensing or using solutions that are alleged to infringe or misappropriate the intellectual property of others; expend additional development resources to attempt to redesign our products or services or otherwise to develop non-infringing technology, which may not be successful; enter into potentially unfavorable royalty or license agreements in order to obtain the right to use necessary technologies or intellectual property rights; and indemnify our partners and other third parties. Any damages or royalty obligations we may become subject to as a result of an adverse outcome, and any third-party indemnity we may need to provide, could materially adversely affect our business, financial condition, results of operations and prospects. Royalty or licensing agreements, if required or desirable, may be unavailable on terms acceptable to us, or at all, and may require significant royalty payments and other expenditures. Further, there is little or no information publicly available concerning market or fair values for license fees, which can lead to overpayment of license or settlement fees. In addition, some licenses may be non-exclusive, and therefore our competitors may have access to the same technology licensed to us. Suppliers subject to third-party intellectual property claims also may choose or be forced to discontinue or alter their arrangements with us, with little or no advance notice to us. Any of these events could materially adversely affect our business, financial condition, results of operations and prospects.

Unavailability, termination or breach of licenses to third-party software and other intellectual property could materially harm our business.

Many of our products and services include software or other intellectual property licensed from third parties, and we otherwise use software and other intellectual property licensed from third parties in our business. We exercise no control over our third-party licensors, and the failure or unsuitability of their software or other intellectual property exposes us to risks that we will have little ability to control. For example, a licensor may have difficulties keeping up with technological changes or may stop supporting the software or other intellectual property that it licenses to us; our licensors may also have the ability to terminate our licenses if the licensed technology becomes the subject of a claim of intellectual property infringement. Also, it will be necessary in the future to renew licenses, expand the scope of existing licenses or seek new licenses, relating to various aspects of these products and services or otherwise relating to our business, which may result in increased license fees. Any new licenses may not be available on acceptable terms, if at all. In addition, a third party may assert that we or our customers are in breach of the terms of a license, which could, among other things, give such third party the right to terminate a license or seek damages from us, or both. The inability to obtain or maintain certain licenses or other rights or to obtain or maintain such licenses or rights on favorable terms, or the need to engage in litigation regarding these matters, could result in delays in releases of products and services and could otherwise disrupt our business, until equivalent technology can be identified, licensed or developed, if at all, and integrated into our products and services or otherwise in the conduct of our business. Moreover, the inclusion in our products and services of software or other intellectual property licensed from third parties on a nonexclusive basis may limit our ability to differentiate our products from those of our competitors. Any of these events could have a material adverse effect on our business, financial condition, results of operations and prospects.

Our products contain third-party open source software components, and failure to comply with the terms of the underlying open source software licenses could restrict our ability to sell our products.

Our products contain software modules licensed to us by third-party authors under “open source” licenses. Use and distribution of open source software may entail greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the code. Some open source licenses contain requirements that we make available source code for modifications or derivative works we create based upon the type of open source software that we use. If we combine our software with open source software in a certain manner, we could, under certain open source licenses, be required to release portions of the source code of our software to the public. This would allow our competitors to create similar products with lower development effort and time and ultimately could result in a loss of product sales for us.

Although we monitor our use of open source software to avoid subjecting our products to undesirable conditions, we do not have a formal open source policy in place that gives our developers written guidance on what open source licenses we deem “safe.” Further, even where we believe an open source license may have acceptable conditions, the terms of many open source licenses have not been interpreted by U.S. courts, and these licenses could be construed in a way that could impose unanticipated conditions or restrictions on our ability to commercialize our products. Moreover, we cannot assure you that our informal processes for controlling our use of open source software in our products will be effective or that our compliance with open source licenses, including notice and attribution requirements, are adequate. If we are held to have breached the terms of an open source software license, we could be required to seek licenses from third parties to continue offering our products on terms that are not economically feasible, to re-engineer our products, to discontinue the sale of our products if re-engineering could not be accomplished on a timely or commercially reasonable basis or to make generally available, in source code form, our proprietary code. We also could face infringement claims. Any of the foregoing could materially adversely affect our business, financial condition, results of operations and prospects.

Our failure to adequately protect personal data and to comply with related laws and regulations could result in material liability.

A wide variety of provincial, state, national, foreign, and international laws and regulations apply to the collection, use, retention, protection, disclosure, transfer (including across national boundaries), and other processing of personal data. These data protection and privacy-related laws and regulations are evolving and being tested in courts and may result in ever-increasing regulatory and public scrutiny and escalating levels of enforcement and sanctions.

Any failure by us to comply with applicable laws and regulations, or to protect such data, could result in enforcement action against us, including fines, imprisonment of company officials, public censure, claims for damages by end customers and other affected persons and entities, damage to our reputation and loss of goodwill, and other forms of injunctive or operations-limiting relief, any of which could have a material adverse effect on our operations, financial performance, and business.

Definitions of personal data and personal information, and requirements relating to the same under applicable laws and regulations within the European Union, the United States, and elsewhere, change frequently and are subject to new and different interpretations by courts and regulators. Because the interpretation and application of laws and other obligations relating to privacy and data protection are uncertain, it is possible that existing or future laws, regulations, and other obligations may be interpreted and applied in a manner that is inconsistent with our data management practices. We may be required to expend significant resources to modify our products and otherwise adapt to these changes, which we may be unable to do on commercially reasonable terms or at all, and our ability to develop new products and features could be limited. These developments could harm our business, financial condition and results of operations. Even if not subject to legal challenge, the perception of privacy concerns, whether or not valid, may harm our reputation and inhibit adoption of our products by current and prospective customers.

Failure to comply with governmental laws and regulations could materially adversely affect our business, financial condition, results of operations and prospects.

Our business is subject to regulation by various federal, state, local and foreign governmental agencies, including agencies responsible for monitoring and enforcing employment and labor laws, workplace safety, product safety, environmental laws, consumer protection laws, anti-bribery laws, import/export controls, federal securities laws and tax laws and regulations. In certain jurisdictions, these regulatory requirements may be more stringent than those in the United States. From time to time, we may receive inquiries from such governmental agencies or we may make voluntary disclosures regarding our compliance with applicable governmental regulations or requirements. Noncompliance with applicable government regulations or requirements could subject us to sanctions, mandatory product recalls, enforcement actions, disgorgement of profits, fines, damages, civil and criminal penalties or injunctions. If any governmental sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation, our business, financial condition, results of operations and prospects could be materially adversely affected. In addition, responding to any action will likely result in a significant diversion of management’s attention and resources and an increase in professional fees. Enforcement actions and sanctions could materially adversely affect our business, financial condition, results of operations and prospects.

We may invest in or acquire other businesses, which could require significant management attention, disrupt our business, dilute stockholder value and adversely affect our business, financial condition, results of operations and prospects.

As part of our growth strategy, we may make investments in or acquire complementary companies, products or technologies. We do not have experience in making investments in other companies nor have we made any acquisitions to date, and as a result, our ability as an organization to evaluate and/or complete investments or acquire and integrate other companies, products or technologies in a successful manner is unproven. We may not be able to find suitable investment or acquisition candidates, and we may not be able to complete such investments or acquisitions on favorable terms, if at all. If we do complete investments or acquisitions, we may not ultimately strengthen our competitive position or achieve our goals, and any investments or acquisitions we complete could be viewed negatively by our customers, investors and securities analysts.

In addition, investments and acquisitions may result in unforeseen operating difficulties and expenditures. For example, if we are unsuccessful at integrating any acquisitions or retaining key talent from those acquisitions, or the technologies associated with such acquisitions, into our company, the business, financial condition, results of operations and prospects of the combined company could be materially adversely affected. Any integration process may require significant time and resources, and we may not be able to manage the process successfully. We may not successfully evaluate or utilize the acquired technology or personnel or accurately forecast the financial effects of an acquisition transaction, including accounting charges. We may have to pay cash, incur debt or issue equity securities to pay for any such investment or acquisition, each of which could adversely affect our financial condition or the market price of our common stock. The sale of equity or issuance of debt to finance any such acquisitions could result in dilution to our stockholders. The incurrence of indebtedness would result in increased fixed obligations and could also include covenants or other restrictions that would impede our ability to manage our operations. Moreover, if the investment or acquisition becomes impaired, we may be required to take an impairment charge, which could adversely affect our financial condition or the market price of our common stock.

Our international operations may give rise to potentially adverse tax consequences.

We are expanding our international operations and staff to better support our growth into the international markets. We generally conduct our international operations through wholly owned subsidiaries and report our taxable income in various jurisdictions worldwide based upon our business operations in those jurisdictions. Our corporate structure and associated transfer pricing policies contemplate the business flows and future growth into the international markets, and consider the functions, risks and assets of the various entities involved in the intercompany transactions. The amount of taxes we pay in different jurisdictions may depend on the application of the tax laws of the various jurisdictions, including the United States, to our international business activities, changes in tax rates, new or revised tax laws or interpretations of existing tax laws and policies and our ability to operate our business in a manner consistent with our corporate structure and intercompany arrangements. The taxing authorities of the jurisdictions in which we operate may challenge our methodologies for pricing intercompany transactions, which are required to be computed on an arm's-length basis pursuant to the intercompany arrangements or disagree with our determinations as to the income and expenses attributable to specific jurisdictions. If such a challenge or disagreement were to occur, and our position was not sustained, we could be required to pay additional taxes, interest and penalties, which could result in one-time tax charges, higher effective tax rates, reduced cash flows and lower overall profitability of our operations. Our financial statements could fail to reflect adequate reserves to cover such a contingency.

On December 22, 2017, the President signed into law new U.S. federal income tax legislation that contains significant changes to corporate taxation, including the transition of U.S. international taxation to a modified territorial system and the imposition of a one-time transition tax on a deemed repatriation of certain foreign earnings and profits. The overall impact of this new legislation is uncertain, and our business and financial condition could be adversely affected. In addition, further changes in the tax laws of foreign jurisdictions could arise, including as a result of the base erosion and profit shifting project undertaken by the Organisation for Economic Co-operation and Development, or the OECD. The OECD, which represents a coalition of member countries, has issued recommendations that, in some cases, make substantial changes to numerous long-standing tax positions and principles; many of these changes have been adopted or are under active consideration by OECD members and/or other countries.

Recent changes to the U.S. tax laws impact the tax treatment of foreign earnings by, among other things, creating limits on the ability of taxpayers to claim and utilize foreign tax credits, imposing minimum effective rates of current tax on certain classes of foreign income, and imposing additional taxes in connection with specified payments to related foreign recipients. We are unable to determine at this time what effect such changes, or others that may be enacted in the future, may have on our business. Due to our existing, and anticipated expansion of, our international business activities, any changes in the U.S. or foreign taxation of such activities may increase our worldwide effective tax rate and adversely affect our financial condition and operating results.

Taxing authorities may successfully assert that we should have collected or in the future should collect sales and use, value added or similar taxes, and we could be subject to liability with respect to past or future sales, which could adversely affect our operating results.

We do not collect sales and use, value added or similar taxes in all jurisdictions in which we have sales, and we have been advised that such taxes are not applicable to our products and services in certain jurisdictions. Sales and use, value added and similar tax laws and rates vary greatly by jurisdiction. Certain jurisdictions in which we do not collect such taxes may assert that such taxes are applicable, which could result in tax assessments, penalties and interest, to us or our end-customers for the past amounts, and we may be required to collect such taxes in the future. If we are unsuccessful in collecting such taxes from our end-customers, we could be held liable for such costs. Such tax assessments, penalties and interest, or future requirements may adversely affect our operating results.

If we needed to raise additional capital to expand our operations and invest in new products, our failure to do so on favorable terms could reduce our ability to compete and could materially adversely affect our business, financial condition, results of operations and prospects.

We expect that our existing cash and cash equivalents will be sufficient to meet our anticipated cash needs for at least the next 12 months. However, if we need to raise additional funds to expand our operations and invest in new products, we may not be able to obtain additional debt or equity financing on favorable terms, if at all. If we raise additional equity financing, our stockholders may experience significant dilution of their ownership interests, and the market price of our common stock could decline.

Our business is subject to the risks of fire, power outages, floods and other catastrophic events and to interruption by manmade problems such as terrorism.

Our corporate headquarters and the operations of our key manufacturing vendors, as well as many of our customers, are located in areas exposed to risks of natural disasters such as fires and floods. A significant natural disaster, such as a fire, flood or other catastrophic events such as a disease outbreak, could have a material adverse effect on our or their business, which could in turn materially adversely affect our business, financial condition, results of operations and prospects. For example, in the event our manufacturing or logistics abilities are hindered by any of the events discussed above, shipments could be delayed, which could result in missed financial targets, such as revenue and shipment targets, for a particular quarter. Further, if a natural disaster occurs in a region from which we derive a significant portion of our revenue, customers in that region may delay or forego purchases of our products, which could materially adversely affect our business, financial condition, results of operations and prospects. In addition, acts of terrorism could cause disruptions in our business or the business of our manufacturers, logistics providers, partners or customers or the economy as a whole. All of the aforementioned risks may be compounded if our disaster recovery plans and those of our manufacturers, logistics providers or partners prove to be inadequate. To the extent that any of the above results in delays or cancellations of customer orders, or delays in the manufacture, deployment or shipment of our products, our business, financial condition, results of operations and prospects would be adversely affected.

Regulations affecting broadband infrastructure could reduce demand for our products.

Laws and regulations governing the Internet and electronic commerce are emerging but remain largely unsettled, even in the areas where there has been some legislative action. Regulations may focus on, among other things, assessing access or settlement charges, or imposing tariffs or regulations based on the characteristics and quality of products, either of which could restrict our business or increase our cost of doing business. Government regulatory policies are likely to continue to have a major impact on the pricing of existing and new network services and, therefore, are expected to affect demand for those services and the communications products, including our products, supporting those services.

Any changes to existing laws or the adoption of new regulations by federal or state regulatory authorities or any legal challenges to existing laws or regulations affecting IP networks could materially adversely affect the market for our products. Moreover, customers may require us, or we may otherwise deem it necessary or advisable, to alter our products to address actual or anticipated changes in the regulatory environment. Our inability to alter our products or address any regulatory changes could have a material adverse effect on our consolidated financial position, results of operations or cash flows.

We have outstanding debt that could limit our ability to make expenditures and investments in the conduct of our business and adversely impact our ability to obtain future financing.

We have outstanding debt. We may be unable to generate cash sufficient to pay when due the principal of, interest on or other amounts due in respect of our indebtedness. We may be required to dedicate significant cash flows from operations to make such payments, which could limit our ability to make other expenditures and investments in the conduct of our business. Our indebtedness may also reduce our flexibility in planning for or reacting to changes in our business and market conditions. Our indebtedness also exposes us to interest rate risk, since our debt obligations generally bear interest at variable rates. In addition, we may incur additional indebtedness in the future to meet future financing needs. If we add new debt, the risks described above could increase.

Our credit facility contains restrictive and financial covenants that may limit our operating flexibility.

Our credit facility contains certain restrictive covenants that either limit our ability to, or require a mandatory prepayment in the event we, incur additional indebtedness and liens, merge with other companies or consummate certain changes of control, acquire other companies, engage in new lines of business, change business locations, make certain investments, make any payments on any subordinated debt, transfer or dispose of assets, amend certain material agreements, and enter into various specified transactions. We, therefore, may not be able to engage in any of the foregoing transactions unless we obtain the consent of our lender or prepay the outstanding amount under the credit facility. The credit facility also contains certain financial covenants and financial reporting requirements. Our obligations under the credit facility are secured by substantially all of our assets, excluding intellectual property and investments in foreign subsidiaries. We may not be able to generate or sustain sufficient cash flow or sales to meet the financial covenants or pay the principal and interest under the credit facility. Furthermore, our future working capital, borrowings or equity financing could be unavailable to repay or refinance the amounts outstanding under the credit facility. In the event of a liquidation, our lender would be repaid all outstanding principal and interest prior to distribution of assets to unsecured creditors, and the holders of our common stock would receive a portion of any liquidation proceeds only if all of our creditors, including our lender, were first repaid in full.

Risks Related to Our Common Stock

Our results of operations are likely to vary significantly from period to period and be unpredictable. If we fail to meet the expectations of analysts or investors, the market price of our common stock could decline substantially.

Our results of operations have historically varied from period to period, and we expect that this trend will continue. As a result, you should not rely upon our past financial results for any period as indicators of future performance. Our results of operations in any given period can be influenced by a number of factors, many of which are outside of our control and may be difficult to predict, including the factors described above as well as:

- changes in our pricing policies, whether initiated by us or as a result of competition;
- the amount and timing of operating costs and capital expenditures related to the operation and expansion of our business;
- changes in the growth rate of the broadband services market;
- the actual or rumored timing and success of new product and service introductions by us or our competitors or any other change in the competitive landscape of our industry, including consolidation among our competitors or customers;
- our ability to successfully expand our business geographically;
- insolvency or credit difficulties confronting our customers, which could adversely affect their ability to purchase or pay for our products and services, or confronting our key suppliers, including our sole source suppliers, which could disrupt our supply chain;
- our inability to fulfill our customers' orders due to supply chain delays, access to key commodities or technologies or events that impact our manufacturers or their suppliers;
- the cost and possible outcomes of any potential litigation matters;
- our overall effective tax rate, including impacts caused by any changes in the valuation of our deferred tax assets and any new legislation or regulatory developments;
- increases or decreases in our expenses caused by fluctuations in foreign currency exchange rates; and
- general economic conditions, both domestically and in foreign markets.

Any one of the factors above or the cumulative effect of several of the factors described above may result in significant fluctuations in our financial and other results of operations. This variability and unpredictability could result in our failure to meet expectations of securities analysts or investors for a particular period. If we fail to meet or exceed such expectations for these or any other reasons, the market price of our common stock could decline substantially, and we could face costly lawsuits, including securities class action suits.

An active trading market for our common stock may not be sustained.

Our common stock began trading on the Nasdaq Global Select Market on December 15, 2017. Given the limited trading history of our common stock, there is a risk that an active trading market for our shares may not be sustained, which could put downward pressure on the market price of our common stock and thereby affect the ability of our stockholders to sell their shares at attractive prices, at the times that they would like to sell them, or at all.

The market price of our common stock may be volatile, which could result in substantial losses for investors.

The market price of our common stock could be subject to significant fluctuations. Some of the factors that may cause the market price of our common stock to fluctuate include:

- actual or anticipated changes in our earnings or fluctuations in our results of operations or in the expectations of securities analysts;
- price and volume fluctuations in the overall stock market from time to time;
- volatility in the market price and trading volume of comparable companies;

- announcements of technological innovations, new products, strategic alliances, or significant agreements by us or by competitive vendors;
- announcements by our customers regarding significant increases or decreases in capital expenditures;
- departure of key personnel;
- litigation involving us or that may be perceived as having an impact on our business;
- changes in general economic, industry and market conditions and trends;
- investors' general perception of us;
- sales of large blocks of our stock; and
- announcements regarding further industry consolidation.

In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has often been brought against that company. Because of the potential volatility of our stock price, we may become the target of securities litigation in the future. Securities litigation could result in substantial costs and divert management's attention and resources from our business.

We have broad discretion in the use of our cash reserves and may not use them effectively.

Subject to restrictions in the agreements governing our indebtedness, our management has broad discretion to use our cash reserves and could use our cash reserves in ways that do not improve our results of operations or enhance the value of our common stock. The failure by our management to apply these funds effectively could adversely affect our ability to operate and grow our business. Pending their use, we may invest our cash reserves in a manner that does not produce income or that loses value.

If securities or industry analysts cease publishing research or reports about us, our business or our market, or if they publish negative evaluations of our stock or the stock of other companies in our industry, the price of our stock and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts may publish about us, our business, our market or our competitors. If one or more of the industry analysts covering our business downgrade their evaluations of our stock or the stock of other companies in our industry, the price of our stock could decline. If one or more of these analysts cease to cover our stock, we could lose visibility in the market for our stock, which in turn could cause our stock price to decline.

Because we do not expect to declare any dividends on our common stock for the foreseeable future, investors in our common stock may never receive a return on their investment.

Although we declared special dividends on five occasions prior to our initial public offering, we do not anticipate that we will declare any cash dividends to holders of our common stock in the foreseeable future, and investors should not rely on an investment in our common stock to provide dividend income. Instead, we plan to retain any earnings to maintain and expand our existing operations. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any return on their investment. As a result, investors seeking cash dividends should not purchase our common stock.

Insiders have substantial control over us, which could limit your ability to influence the outcome of key transactions, including a change of control.

As of April 30, 2018, our directors, executive officers and 10% stockholders beneficially owned, in the aggregate, approximately 63.6% of our outstanding common stock. As a result, these stockholders could have significant influence over the outcome of matters submitted to our stockholders for approval, including the election of directors and any merger, consolidation or sale of all or substantially all of our assets, and over the management and affairs of our company. This concentration of ownership may have the effect of delaying or preventing a change in control of our company and might affect the market price of our common stock.

A significant portion of our total outstanding shares may be sold into the public market in the near future, which could cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a significant number of shares of our common stock in the public market could occur at any time after the expiration on June 13, 2018 of the lock-up agreements that were executed in connection with the initial public offering of our common stock and the expiration on July 25, 2018 of the lock-up agreements that were executed in connection with the public offering by certain selling stockholders of shares of our common stock in April 2018, which we refer to as the Follow-On Offering. These sales, or the market perception that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. As of April 30, 2018, 66,794,804 shares of our common stock, or 81.1% of our outstanding shares, will be restricted from sale as a result of lock-up agreements through June 12, 2018 and 56,839,445 of these shares of our common stock, or 69.0% of our outstanding shares, will be further restricted from sale as a result of lock-up agreements through July 24, 2018, except in each case that if the underwriters for the Follow-On Offering exercise their option to purchase additional shares from the selling stockholders such shares will be released from the restrictions under these lock-up agreements so that they may be sold in the Follow-On Offering.

In addition, as of April 30, 2018, there were 15,122,072 shares subject to outstanding options, 507,578 shares subject to outstanding restricted stock unit awards, or RSUs, and an additional 8,877,488 shares reserved for future issuance under our equity incentive plans. Because we registered all shares of common stock that may be issued under our equity incentive plans pursuant to a Registration Statement on Form S-8 on December 15, 2017, any such shares that we issue can be freely sold in the public market upon issuance, subject to the lock-up agreements and the restrictions imposed on our affiliates under Rule 144.

Moreover, holders of an aggregate of approximately 38,557,350 shares of our common stock as of April 30, 2018, will have rights, subject to expiration of the lock-up agreements described above and certain other conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. Upon registration, such shares would be able to freely sold in the public market, subject to the lock-up agreements described above.

Anti-takeover provisions in our restated certificate of incorporation and our amended and restated bylaws, as well as provisions of Delaware law, might discourage, delay or prevent a change in control of our company or changes in our management and, therefore, depress the trading price of our common stock.

Our restated certificate of incorporation and amended and restated bylaws and Delaware law contain provisions that may discourage, delay or prevent a merger, acquisition or other change in control that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares of our common stock. These provisions may also prevent or delay attempts by our stockholders to replace or remove our management. Our corporate governance documents include provisions:

- establishing a classified board of directors with staggered three-year terms so that not all members of our board are elected at one time;
- providing that directors may be removed by stockholders only for cause and only with a vote of the holders of at least 75% of the issued and outstanding shares of common stock;
- limiting the ability of our stockholders to call and bring business before special meetings and to take action by written consent in lieu of a meeting;
- requiring advance notice of stockholder proposals for business to be conducted at meetings of our stockholders and for nominations of candidates for election to our board of directors;
- authorizing blank check preferred stock, which could be issued with voting, liquidation, dividend and other rights superior to our common stock; and
- limiting the liability of, and providing indemnification to, our directors and officers.

As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the Delaware General Corporation Law, which limits the ability of stockholders holding more than 15% of our outstanding common stock from engaging in certain business combinations with us. Any provision of our restated certificate of incorporation or amended and restated bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

The existence of the foregoing provisions and anti-takeover measures could limit the price that investors might be willing to pay in the future for shares of our common stock. They could also deter potential acquirers of our company, thereby reducing the likelihood that you could receive a premium for your common stock in an acquisition.

Our restated certificate of incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for substantially all disputes between us and our stockholders. Our restated certificate of incorporation further provides that the federal district courts of the United States are the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. These choice of forum provisions could limit our stockholders' ability to obtain a more favorable judicial forum for disputes with us or our directors, officers or employees.

Our restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for any derivative action or proceeding brought on our behalf; any action asserting a breach of fiduciary duty; any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our certificate of incorporation or our bylaws; or any action asserting a claim against us that is governed by the internal affairs doctrine. Our restated certificate of incorporation further provides that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. These choice of forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and other employees. Alternatively, if a court were to find the choice of forum provisions contained in our certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could materially adversely affect our business, financial condition, results of operations and prospects.

We are an "emerging growth company," and the reduced disclosure requirements applicable to emerging growth companies may make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and may remain an emerging growth company until the last day of our fiscal year following the fifth anniversary of our initial public offering, subject to specified conditions. For so long as we remain an emerging growth company, we are permitted, and intend, to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include being permitted to provide reduced disclosure regarding executive compensation and exemptions from the requirements to hold non-binding advisory votes on executive compensation and golden parachute payments, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002 related to our internal control over financial reporting, and not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding a supplement to the auditor's report providing additional information about the audit and the financial statements. We cannot predict whether investors will find our common stock less attractive if we rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

Further, Section 102(b)(1) of the JOBS Act exempts emerging growth companies from being required to comply with new or revised financial accounting standards until private companies (that is, companies that have not filed a pending registration statement under the Securities Act, had a Securities Act registration statement declared effective or do not have a class of securities registered under the Securities Exchange Act of 1934, as amended, or the Exchange Act) are required to comply with the new or revised financial accounting standards. The JOBS Act provides that a company can elect to opt out of the extended transition period and comply with the requirements that apply to non-emerging growth companies, but any such an election to opt out is irrevocable. We have elected not to opt out of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we will adopt the new or revised standard at the time private companies adopt the new or revised standard, provided that we continue to be an emerging growth company. This may make comparison of our financial statements with the financial statements of another public company that is not an emerging growth company, or an emerging growth company that has opted out of using the extended transition period, difficult or impossible because of the potential differences in accounting standards used.

We will remain an emerging growth company until the last day of the fiscal year following the fifth anniversary of our initial public offering or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company if we have more than $1.07 billion in annual revenue, we have more than $700 million in market value of our stock held by non-affiliates (and we have been a public company for at least 12 months and have filed one Annual Report on Form 10-K) or we issue more than $1 billion of non-convertible debt securities over a three-year period.

We have elected to rely on certain phase-in provisions of the Nasdaq Stock Market rules, and, as a result, we are not yet subject to certain corporate governance requirements otherwise required of Nasdaq-listed companies.

We are currently relying on the phase-in provisions of the Nasdaq rules for certain corporate governance requirements, including the requirements that we have:

- a majority of independent directors on our board of directors;
- an audit committee that is composed entirely of independent directors; and
- a compensation committee that is composed entirely of independent directors.

Under the phase-in provisions of the Nasdaq rules, a majority of the members of our board of directors must be independent within one year of the date of our initial public offering, and we must comply with the following independence requirements with respect to our audit committee and our compensation committee: (1) one independent member of each committee beginning at the time of our initial public offering, (2) a majority of independent members of each committee within 90 days following the date of our initial public offering and (3) all independent members of each committee within one year of the date of our initial public offering. As of March 8, 2018, three members of our board of directors had been determined to be independent, two members of our audit committee had been determined to be independent and two members of our compensation committee had been determined to be independent. During the phase-in periods, our stockholders will not have the same protections afforded to stockholders of companies that comply with Nasdaq's independence requirements without reliance on the phase-in periods. We will be required to recruit new directors in order to comply with Nasdaq's independence requirements, and the resultant changes in our board and committee membership may influence our future corporate strategy and operating philosophies and may result in deviations from our current strategy. Additionally, if, during the phase-in periods, we are unable to recruit a sufficient number of new directors who qualify as independent or otherwise comply with Nasdaq rules, we may be subject to delisting by Nasdaq.

Our management team has limited experience managing a public company.

Most members of our management team have limited experience managing a publicly traded company, interacting with public company investors and complying with the increasingly complex laws pertaining to public companies. Our management team may not successfully or efficiently manage our transition to being a public company subject to significant regulatory oversight and reporting obligations under the federal securities laws and the scrutiny of securities analysts and investors. These new obligations and constituents will require significant attention from our management team and could divert their attention away from the day-to-day management of our business, which could materially adversely affect our business, financial condition, results of operations and prospects.

The requirements of being a public company may strain our resources, divert management's attention and affect our ability to attract and retain qualified board members.

As a public company, we are subject to the reporting requirements of the Exchange Act, the listing requirements of the Nasdaq Stock Market and other applicable securities rules and regulations. Compliance with these rules and regulations will increase our legal and financial compliance costs, make some activities more difficult, time-consuming or costly, and increase demand on our systems and resources, particularly after we are no longer an emerging growth company. Among other things, the Exchange Act requires that we file annual, quarterly and current reports with respect to our business and results of operations and maintain effective disclosure controls and procedures and internal control over financial reporting. In order to maintain and, if required, improve our disclosure controls and procedures and internal control over financial reporting to meet this standard, significant resources and management oversight may be required. As a result, management's attention may be diverted from other business concerns, which could harm our business and results of operations. Although we have already hired additional employees to comply with these requirements, we may need to hire even more employees in the future, which will increase our costs and expenses.

We are currently evaluating our internal controls, including to identify and remediate any deficiencies in those internal controls. We may not be able to complete our evaluation, testing and any required remediation in a timely fashion. During the evaluation and testing process, if we identify one or more material weaknesses in our internal control over financial reporting that we are unable to remediate before the end of the same fiscal year in which the material weakness is identified, we will be unable to assert that our internal controls are effective. If we are unable to assert that our internal control over financial reporting is effective, or if our auditors are unable to attest to management's report on the effectiveness of our internal controls, which will be required after we are no longer an emerging growth company, we could lose investor confidence in the accuracy and completeness of our financial reports, which would cause the price of our common stock to decline.

In addition, changing laws, regulations and standards relating to corporate governance and public disclosure are increasing legal and financial compliance costs and making some activities more time-consuming. We intend to invest resources to comply with evolving laws, regulations and standards, and this investment may result in increased general and administrative expense and a diversion of management's time and attention from revenue-generating activities to compliance activities. If our efforts to comply with new laws, regulations and standards differ from the activities intended by regulatory or governing bodies, regulatory authorities may initiate legal proceedings against us and our business may be harmed.

We also expect that being a public company will make it more expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified members of our board of directors and qualified executive officers.

We estimate that we will incur approximately $2.0 to $3.0 million of incremental annual costs associated with being a publicly traded company, which we expect will be included in general and administrative expenses. However, it is possible that our actual incremental costs of being a publicly traded company will be higher than we currently estimate. In estimating these costs, we took into account expenses related to insurance, legal, accounting and compliance activities.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

Use of Proceeds

On December 14, 2017, the Securities and Exchange Commission, or the SEC, declared our registration statement on Form S-1 (File No. 333-221658) for our initial public offering effective. The net offering proceeds to us from the offering, after deducting underwriting discounts of $6.3 million and offering expenses payable by us totaling $4.1 million, were approximately $79.3 million. No offering discounts, commissions or expenses were paid directly or indirectly to any of our directors or officers (or their associates) or persons owning 10.0% or more of any class of our equity securities or to any other affiliates. There has been no material change in the planned use of proceeds from our initial public offering as described in our final prospectus filed with the SEC on December 15, 2017 pursuant to Rule 424(b)(4). As of March 31, 2018, we had not used any of the net offering proceeds and we have invested the proceeds into an investment portfolio with the primary objective of preserving principal and providing liquidity without significantly increasing risk.

Item 6. Exhibits.

Exhibit Index

Exhibit Number	Description
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

SIGNATURES

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

CASA SYSTEMS, INC.

Date: May 11, 2018	By: /s/ Jerry Guo **Jerry Guo** **President, Chief Executive Officer and Chairman**
Date: May 11, 2018	By: /s/ Gary Hall **Gary Hall** **Chief Financial Officer** **(Principal Financial and Accounting Officer)**

Exhibit 31.1

**CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Jerry Guo, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Casa Systems, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;
4. The Registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the Registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

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

   (c) Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and
5. The Registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of the Registrant's board of directors (or persons performing the equivalent functions):
   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report financial information; and

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

Date: May 11, 2018

By: /s/ Jerry Guo
Jerry Guo
President, Chief Executive Officer and Chairman

Exhibit 31.2

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Gary Hall, certify that:

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

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

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

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

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

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

   (c) Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and

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

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

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

Date: May 11, 2018

By: /s/ Gary Hall
Gary Hall
Chief Financial Officer

Exhibit 32.1

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

In connection with the Quarterly Report on Form 10-Q of Casa Systems, Inc. (the “Company”) for the period ended March 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Jerry Guo, as President, Chief Executive Officer and Chairman of the Company, hereby certify, as of the date hereof, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge, the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company at the dates and for the periods indicated.

Date: May 11, 2018	By:	/s/ Jerry Guo
		Jerry Guo
		President, Chief Executive Officer and Chairman

Exhibit 32.2

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of Casa Systems, Inc. (the “Company”) for the period ended March 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Gary Hall, as Chief Financial Officer of the Company, hereby certify, as of the date hereof, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge, the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company at the dates and for the periods indicated.

Date: May 11, 2018

By: /s/ Gary Hall
Gary Hall
Chief Financial Officer