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: September 30, 2017
OR

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

For the transition period from to
Commission File Number 0-28082

KVH Industries, Inc.
(Exact Name of Registrant as Specified in its Charter)

Delaware	**05-0420589**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification Number)**

50 Enterprise Center, Middletown, RI 02842
(Address of Principal Executive Offices) (Zip Code)

(401) 847-3327
(Registrant's Telephone Number, Including Area Code)

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§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 o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company, 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. (Check one):

Large accelerated filer	o	Accelerated filer	☒
Non-accelerated filer	o (Do not check if a smaller reporting company)	Smaller reporting company	o
		Emerging growth company	o

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. o

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Date	Class	Outstanding shares
October 31, 2017	Common Stock, par value $0.01 per share	17,109,956

KVH INDUSTRIES, INC. AND SUBSIDIARIES

Form 10-Q
INDEX

PART I. FINANCIAL INFORMATION

ITEM 1. Financial Statements

KVH INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in thousands, except per share and share amounts)

	September 30, 2017	December 31, 2016
ASSETS	**(unaudited)**	
Current assets:		
Cash and cash equivalents	$ 35,375	$ 26,422
Marketable securities	8,297	25,712
Accounts receivable, net of allowance for doubtful accounts of $2,710 and $3,477 as of September 30, 2017 and December 31, 2016, respectively	29,062	31,152
Inventories	21,650	20,745
Prepaid expenses and other current assets	5,056	4,801
Total current assets	99,440	108,832
Property and equipment, less accumulated depreciation of $49,907 and $45,766 as of September 30, 2017 and December 31, 2016, respectively	42,603	36,586
Intangible assets, less accumulated amortization of $19,610 and $16,344 as of September 30, 2017 and December 31, 2016, respectively	16,047	17,838
Goodwill	33,674	31,343
Other non-current assets	5,891	5,134
Non-current deferred income tax asset	25	24
Total assets	**$ 197,680**	**$ 199,757**
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 11,944	$ 8,436
Accrued compensation and employee-related expenses	7,003	4,766
Accrued other	8,828	8,317
Accrued product warranty costs	2,315	2,280
Deferred revenue	9,218	6,661
Current portion of long-term debt	2,479	7,900
Liability for uncertain tax positions	1,538	1,283
Total current liabilities	43,325	39,643
Other long-term liabilities	26	326
Long-term debt, excluding current portion	45,193	50,153
Non-current deferred income tax liability	3,406	3,133
Total liabilities	**$ 91,950**	**$ 93,255**
Commitments and contingencies (Note 12)		
Stockholders' equity:		
Preferred stock, $0.01 par value. Authorized 1,000,000 shares; none issued	—	—
Common stock, $0.01 par value. Authorized 30,000,000 shares; 18,754,697 and 18,420,914 shares issued at September 30, 2017 and December 31, 2016, respectively; and 17,095,706 and 16,761,923 shares outstanding at September 30, 2017 and December 31, 2016, respectively	188	184
Additional paid-in capital	133,173	129,660
(Accumulated deficit) retained earnings	(2,732)	6,617
Accumulated other comprehensive loss	(11,749)	(16,809)
	118,880	119,652
Less: treasury stock at cost, common stock, 1,658,991 shares as of September 30, 2017 and December 31, 2016	(13,150)	(13,150)
Total stockholders' equity	**105,730**	**106,502**
Total liabilities and stockholders' equity	**$ 197,680**	**$ 199,757**

See accompanying Notes to Unaudited Consolidated Financial Statements.

KVH INDUSTRIES, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except earnings per share amounts, unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Sales:				
Product	$ 14,169	$ 19,020	$ 43,355	$ 54,464
Service	26,281	26,826	77,755	77,728
Net sales	40,450	45,846	121,110	132,192
Costs and expenses:				
Costs of product sales	9,578	11,001	29,412	34,660
Costs of service sales	13,374	13,576	39,736	39,826
Research and development	3,990	3,940	11,698	11,760
Sales, marketing and support	8,234	7,978	25,098	25,870
General and administrative	7,075	6,338	22,805	21,130
Total costs and expenses	42,251	42,833	128,749	133,246
(Loss) income from operations	(1,801)	3,013	(7,639)	(1,054)
Interest income	166	130	491	353
Interest expense	379	353	1,081	1,081
Other (expense) income, net	(141)	(56)	(321)	11
(Loss) income before income tax expense (benefit)	(2,155)	2,734	(8,550)	(1,771)
Income tax expense (benefit)	283	(129)	799	(1,037)
Net (loss) income	**$ (2,438)**	**$ 2,863**	**$ (9,349)**	**$ (734)**
Net (loss) income per common share				
Basic and diluted	**$ (0.15)**	**$ 0.18**	**$ (0.57)**	**$ (0.05)**
Weighted average number of common shares outstanding:				
Basic	**16,469**	**15,845**	**16,393**	**15,798**
Diluted	**16,469**	**15,915**	**16,393**	**15,798**

See accompanying Notes to Unaudited Consolidated Financial Statements.

KVH INDUSTRIES, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME
(in thousands, unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Net (loss) income	$ (2,438)	$ 2,863	$ (9,349)	$ (734)
Other comprehensive income (loss), net of tax [(1)]:				
Unrealized gain (loss) on available-for-sale securities	2	—	(1)	—
Foreign currency translation adjustment	1,956	(2,238)	4,997	(7,386)
Unrealized gain on derivative instruments, net [(2)]	19	37	64	26
Other comprehensive income (loss), net of tax	1,977	(2,201)	5,060	(7,360)
Total comprehensive (loss) income	$ (461)	$ 662	$ (4,289)	$ (8,094)

(1) Tax impact was nominal for all periods.
(2) Represents the net of the gross unrealized gain for the period recorded to accumulated other comprehensive loss and the amounts reclassified from accumulated other comprehensive loss to other (expense) income, net in the consolidated statements of operations. See Note 5(d) for further information.

See accompanying Notes to Unaudited Consolidated Financial Statements.

KVH INDUSTRIES, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands, unaudited)

	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2016
Cash flows from operating activities:		
Net loss	$ (9,349)	$ (734)
Adjustments to reconcile net loss to net cash provided by operating activities:		
Provision for doubtful accounts	637	379
Depreciation and amortization	8,222	9,090
Deferred income taxes	—	(888)
Loss on disposals of fixed assets	21	799
Compensation expense related to stock-based awards and employee stock purchase plan	2,621	2,792
Unrealized currency translation (gain) loss	(205)	894
Changes in operating assets and liabilities:		
Accounts receivable	1,975	10,819
Inventories	(896)	421
Prepaid expenses and other current assets	(200)	(2,932)
Other non-current assets	(685)	(2,190)
Accounts payable	2,910	(1,168)
Deferred revenue	2,167	3,829
Accrued other	2,478	(2,029)
Other long-term liabilities	(305)	(113)
Net cash provided by operating activities	**$ 9,391**	**$ 18,969**
Cash flows from investing activities:		
Capital expenditures	(10,234)	(4,791)
Cash paid for acquisition of intangible asset	(55)	—
Purchases of marketable securities	(9,351)	(10,629)
Maturities and sales of marketable securities	26,766	4,563
Net cash provided by (used in) investing activities	**$ 7,126**	**$ (10,857)**
Cash flows from financing activities:		
Repayments of long-term debt	(1,606)	(1,014)
Repayments of term note borrowings	(8,775)	(3,656)
Payment of employee restricted stock withholdings	(392)	(313)
Proceeds from stock options exercised and employee stock purchase plan	1,332	390
Net cash used in financing activities	**$ (9,441)**	**$ (4,593)**
Effect of exchange rate changes on cash and cash equivalents	1,877	(1,139)
Net increase in cash and cash equivalents	**8,953**	**2,380**
Cash and cash equivalents at beginning of period	**26,422**	**22,719**
Cash and cash equivalents at end of period	**$ 35,375**	**$ 25,099**
Supplemental disclosure of non-cash investing activities:		
Changes in accrued liabilities and accounts payable related to fixed asset additions	**$ 402**	**$ —**
Deferred purchase price consideration related to asset acquisition included in accrued expenses	**$ 50**	**$ —**

See accompanying Notes to Unaudited Consolidated Financial Statements.

Notes to Consolidated Financial Statements
(Unaudited, all amounts in thousands except per share amounts)

(1) Description of Business

KVH Industries, Inc. (together with its subsidiaries, the Company or KVH) designs, develops, manufactures and markets mobile connectivity products and services for the marine and land mobile markets, and inertial navigation products for both the commercial and defense markets. In the fourth quarter of 2016, consistent with certain internal organizational changes implemented, the Company changed its reporting structure from two operating segments based on geographies selling navigation, guidance, and stabilization and mobile communication products, to two operating segments based on product lines: mobile connectivity and inertial navigation. The change was driven by several factors including:

- changes in the Company's overall organizational structure, including the appointment of a Chief Operating Officer and a new Chief Financial Officer;
- the completion of the Company's planning process for 2017, as a result of which the Company changed how it will measure and assess its financial performance; and
- the Company's process for measuring incentive compensation for key executives in 2016 and later years.

KVH's mobile connectivity products enable customers to receive voice and internet services, and live digital television via satellite services in marine vessels, recreational vehicles, buses and automobiles. KVH's CommBox offers a range of tools designed to increase communication efficiency, reduce costs, and manage network operations. KVH sells and leases its mobile connectivity products through an extensive international network of dealers and distributors. KVH also sells and leases products directly to end users. In the second quarter of 2017, the Company launched a new mini-VSAT Broadband service offering, AgilePlans, which is a monthly subscription model providing global connectivity to commercial maritime customers, including hardware, installation, broadband Internet, VOIP, entertainment and training content and global support for a monthly fee with no minimum commitment. KVH offers AgilePlans customers a variety of airtime data plans with varying data speeds and fixed data usage levels with overage charges per megabyte, which is similar to the plans that the Company offers to its other customers. The Company recognizes the monthly subscription fee as service revenue over the service delivery period. The Company retains ownership of the hardware that it provides to AgilePlans customers, who must return the hardware to KVH if they decide to terminate the service. Because KVH does not sell the hardware under AgilePlans, the Company does not recognize any product revenue when the hardware is deployed to an AgilePlans customer. KVH records the cost of the hardware used by AgilePlans customers as revenue-generating assets and depreciates the cost over an estimated useful life of five years. Since the Company is retaining ownership of the hardware, it does not accrue any warranty costs for AgilePlans hardware; however, any maintenance costs on the hardware is expensed in the period these costs are incurred.

KVH's mobile connectivity service sales represent primarily sales earned from satellite voice and Internet airtime services. KVH provides, for monthly fixed and usage fees, satellite connectivity services, including broadband Internet, data and Voice over Internet Protocol (VoIP) services, to its TracPhone V-series customers. Mobile connectivity service sales also include the distribution of commercially licensed entertainment, including news, sports, music, and movies to commercial and leisure customers in the maritime, hotel, and retail markets through KVH Media Group (acquired as Headland Media Limited), the media and entertainment service company that KVH acquired on May 11, 2013, and the distribution of training films and eLearning computer-based training courses to commercial customers in the maritime market through Super Dragon Limited and Videotel Marine Asia Limited (together referred to as Videotel), a maritime training services company that KVH acquired on July 2, 2014. KVH also earns monthly usage fees from third-party satellite connectivity services, including voice, data and Internet services, provided to its Inmarsat and Iridium customers who choose to activate their subscriptions with KVH. Mobile connectivity service sales also include engineering services provided under development contracts, sales from product repairs, and extended warranty sales.

KVH's inertial navigation products offer precision fiber optic gyro (FOG)-based systems that enable platform and optical stabilization, navigation, pointing and guidance. KVH's inertial navigation products also include tactical navigation systems that provide uninterrupted access to navigation and pointing information in a variety of military vehicles, including tactical trucks and light armored vehicles. KVH's inertial navigation products are sold directly to U.S. and foreign governments and government contractors, as well as through an international network of authorized independent sales representatives. In addition, KVH's inertial navigation products are used in numerous commercial products, such as navigation and positioning systems for various applications including precision mapping, dynamic surveying, autonomous vehicles, train location control and track geometry measurement systems, industrial robotics and optical stabilization.

KVH's inertial navigation service sales include product repairs, engineering services provided under development contracts and extended warranty sales.

2) Summary of Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements of KVH Industries, Inc. and its wholly owned subsidiaries have been prepared in accordance with accounting principles generally accepted in the United States of America. The Company has evaluated all subsequent events through the date of this filing. All significant intercompany accounts and transactions have been eliminated in consolidation.

The consolidated financial statements have not been audited by the Company's independent registered public accounting firm and include all adjustments (consisting of only normal recurring adjustments) which are, in the opinion of management, necessary for a fair presentation of the financial condition, results of operations, and cash flows for the periods presented. These consolidated financial statements do not include all disclosures associated with annual financial statements and accordingly should be read in conjunction with the Company’s consolidated financial statements and related notes included in the Company’s annual report on Form 10-K for the year ended December 31, 2016 filed on March 9, 2017 with the Securities and Exchange Commission. The results for the three and nine months ended September 30, 2017 are not necessarily indicative of operating results for the remainder of the year. The Company’s marine leisure business within the mobile connectivity segment is highly seasonal, and seasonality can also impact the Company’s commercial marine business. Historically, the Company has generated the majority of its marine leisure product revenues during the first and second quarters of each year, and these revenues typically decline in the third and fourth quarters of each year, compared to the first two quarters. Temporary suspensions of the Company’s airtime services typically increase in the third and fourth quarters of each year as boats are placed out of service during the winter months.

Significant Estimates and Assumptions

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of sales and expenses during the reporting periods. As described in the Company’s annual report on Form 10-K, the most significant estimates and assumptions by management affect the Company’s revenue recognition, valuation of accounts receivable, valuation of inventory, expected future cash flows including growth rates, discount rates, terminal values and other assumptions and estimates used to estimate the fair values of long-lived assets, including goodwill, amortization methods and periods, certain accrued expenses and other related charges, stock-based compensation, contingent liabilities, estimated fulfillment costs for warranty obligations, tax reserves and recoverability of the Company’s net deferred tax assets and related valuation allowance. The Company has reviewed these estimates and determined that these remain the most significant estimates for the nine months ended September 30, 2017. There have been no material changes to the significant accounting policies previously disclosed in the Company’s annual report on Form 10-K for the year ended December 31, 2016, except for ASC Update No. 2016-09, *Compensation- Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting*, which the Company adopted as required on January 1, 2017 resulted primarily in a change in the Company’s accounting prospectively for share-based payment forfeitures and accounting for excess tax benefits or deficiencies related to share-based payments as a component of earnings (see Note 5 for further discussion) and ASC Update No. 2015-11, *Simplifying the Measurement of Inventory* adopted as of January 1, 2017, which simplified the subsequent measurement of inventory by replacing the lower of cost or market test with a lower of cost or net realizable value test (see Note 7 for further discussion).

Although the Company regularly assesses 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.

(3) Recently Announced Accounting Pronouncements

ASC Updates No. 2014-09, No. 2016-08, No. 2016-10, No. 2016-11, No. 2016-12 and No. 2016-20

In May 2014, the FASB issued ASC Update No. 2014-09, *Revenue from Contracts with Customers (Topic 606).* Update No. 2014-09 provides enhancements to the quality and consistency of how revenue is reported while also improving comparability in the financial statements of companies using International Financial Reporting Standards and U.S. GAAP. The core principle requires entities to recognize revenue in a manner that depicts the transfer of goods or services to customers in amounts that reflect the consideration an entity expects to be entitled to in exchange for those goods or services. In July 2015, the FASB voted to approve a one-year deferral, making the standard effective for public entities for annual and interim periods beginning after December 15, 2017.

In March 2016, the FASB issued ASC Update No. 2016-08, *Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net)*. The purpose of Update No. 2016-08 is to clarify the guidance on principal versus agent considerations. It includes indicators that help to determine whether an entity controls the specified good or service before it is transferred to the customer and to assist in determining when the entity satisfied the performance obligation and as such, whether to recognize a gross or a net amount of consideration in their consolidated statement of operations.

In April 2016, the FASB issued ASC Update No. 2016-10, *Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing.* Update No. 2016-10 clarifies that entities are not required to assess whether promised goods or services are performance obligations if they are immaterial in the context of the contract. Update No. 2016-10 also addresses how to determine whether promised goods or services are separately identifiable and permits entities to make a policy election to treat shipping and handling costs as fulfillment activities. In addition, it clarifies key provisions in Topic 606 related to licensing.

In May 2016, the FASB issued ASC Update No. 2016-11, *Revenue Recognition (Topic 605) and Derivatives and Hedging (Topic 815).* Update No. 2016-11 rescinds previous SEC comments that were codified in Topic 605, Topic 932 and Topic 815. Upon adoption of Topic 606, certain SEC comments including guidance on accounting for shipping and handling fees and costs and consideration given by a vendor to a customer should not be relied upon.

In May 2016, the FASB also issued ASC Update No. 2016-12, *Revenue from Contracts with Customers (Topic 606): Narrow Scope Improvements and Practical Expedients*. Update No. 2016-12 provides clarity around collectability, presentation of sales taxes, non-cash consideration, contract modifications at transition and completed contracts at transition. Update No. 2016-12 also includes a technical correction within Topic 606 related to required disclosures if the guidance is applied retrospectively upon adoption.

In December 2016, the FASB issued ASC Update No. 2016-20, *Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers*. Update No. 2016-20 allows entities not to make quantitative disclosures about remaining performance obligations in certain cases and requires entities that use any of the optional exemptions to expand their qualitative disclosures. Update No. 2016-20 also clarifies other areas of the new revenue standard, including disclosure requirements for prior period performance obligations, impairment guidance for contract costs and the interaction of impairment guidance in ASC 340-40 with other guidance elsewhere in the Codification.

The Company will adopt Topic 606 effective January 1, 2018. The Company anticipates that it will adopt Topic 606 under the modified retrospective method and will only apply this method to contracts that are not completed as of the date of adoption. The modified retrospective method will result in a cumulative effect of initially applying the standard as an adjustment to the opening balance of retained earnings at the date of initial application for any open contracts as of the adoption date. The Company has established an implementation team to assist with its assessment of the impact of the new revenue guidance on its operations, consolidated financial statements and related disclosures. To date, this assessment has included (1) utilizing questionnaires to assist with the identification of revenue streams, (2) performing sample contract analyses for each revenue stream identified, (3) assessing the noted differences in recognition and measurement that may result from adopting this new standard, (4) performing detailed analyses of contracts with larger customers, and (5) developing plans to test transactions for consistency with contract provisions that affect revenue recognition. The adoption of Topic 606 is expected to have a material effect on the Company's consolidated financial statements with the most significant impact related to our mobile connectivity segment. Based on the preliminary results of the evaluation, which is still in process, the Company currently believes that the most significant potential changes relate to promised services under certain contracts that were previously determined to be separate units of accounting under Topic 605 will not be separate performance obligations under Topic 606 due to the fact that they are not distinct in the context of the contract, which will impact the timing of revenue recognition. The Company anticipates that the most significant impact of the new standard will relate to the timing of revenue recognition for certain mini-VSAT Broadband hardware contracts. The Company also anticipates changes to the consolidated balance sheet related to accounts receivable, contract assets, and contract liabilities, as well as enhanced footnote disclosures related to customer contracts. The Company is still evaluating the impact that Topic 606 is expected to have on its accounting for costs to obtain and fulfill a contract. The Company anticipates that the adoption of Topic 606 associated with VSAT contracts as of January 1, 2018 will result in an increase to its accumulated deficit of less than $5.0 million. This anticipated adjustment represents the gross margin on approximately $10 million to $15 million of previously recognized revenue under current guidance. Gross margin reflects revenue less cost of revenue. These ranges represent management’s best estimates of the effects of adopting Topic 606 at the time of the preparation of this Quarterly Report on Form 10-Q. The actual impact of Topic 606 is subject to change from these estimates and such change may be significant, pending the actual results of the fourth quarter of 2017 and the completion of the Company’s assessment in the first quarter of 2018.

The Company is in the process of evaluating and designing the necessary changes to its business processes, systems and controls to support recognition and disclosure under the new standard. Further, the Company is continuing to assess what incremental disaggregated revenue disclosures will be required in its consolidated financial statements.

ASC Update No. 2016-01

In January 2016, the FASB issued ASC Update No. 2016-01, *Financial Instruments-Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities.* It is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Early application of certain provisions is permitted. Update No. 2016-01 requires entities to measure equity investments that do not result in consolidation and are not accounted for under the equity method at fair value with changes recognized in net income. However, an entity may choose to measure equity investments that do not have readily determinable fair values at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. It also simplifies the impairment assessment of equity investments without readily determinable fair values by requiring a qualitative assessment to identify impairment. Update No. 2016-01 also requires separate presentation of financial assets and financial liabilities by measurement category and form of financial asset and liability. The adoption of Update No. 2016-01 is not expected to have a material impact on the Company's financial position or results of operations.

ASC Update No. 2016-02

In February 2016, the FASB issued ASC Update No. 2016-02, *Leases (Topic 842).* It is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Earlier application is permitted. Update No. 2016-02 creates new accounting and reporting guidelines for leasing arrangements. The new guidance requires organizations that lease assets to recognize assets and liabilities on the balance sheet related to the rights and obligations created by those leases, regardless of whether they are classified as finance or operating leases. Consistent with current guidance, the recognition, measurement, and presentation of expenses and cash flows arising from a lease primarily will depend on its classification as a finance or operating lease. The guidance also requires new disclosures to help financial statement users better understand the amount, timing, and uncertainty of cash flows arising from leases. The new standard is to be applied using a modified retrospective approach. The Company is currently evaluating the impact of the new pronouncement on its financial statements. Based on its preliminary assessment, upon adoption the Company expects to recognize significant right-to-use assets and corresponding lease liabilities on its balance sheet related to leased facilities and equipment.

ASC Update No. 2016-13

In June 2016, the FASB issued ASC Update No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The update is effective for fiscal years beginning after December 15, 2019. Early adoption is permitted for fiscal years beginning after December 15, 2018. The purpose of Update No. 2016-13 is to replace the current incurred loss impairment methodology for financial assets measured at amortized cost with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information, including forecasted information, to develop credit loss estimates. The Company is in the process of determining the effect that the adoption will have on its financial position and results of operation.

ASC Update No. 2016-15

In August 2016, the FASB issued ASC Update No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments.* The update is effective for fiscal years beginning after December 15, 2017 and interim periods within those fiscal years. Early adoption is permitted, including adoption in an interim period. The purpose of Update No. 2016-15 is to reduce the diversity in practice in presentation and classification of the following items within the statement of cash flows: debt prepayments, settlement of zero coupon debt instruments, contingent consideration payments, insurance proceeds, securitization transactions and distributions from equity method investees. The update also addresses classification of transactions that have characteristics of more than one class of cash flows. The Company is in the process of determining the effect that the adoption will have on its financial position and results of operations.

ASC Update No. 2016-16

In October 2016, the FASB issued ASC Update No. 2016-16, *Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory*. The update is effective for fiscal years beginning after December 15, 2017, including interim reporting periods within those fiscal years. Early adoption is permitted as of the beginning of an annual reporting period for which financial statements (interim or annual) have not been issued or made available for issuance. The purpose of Update No. 2016-16 is to allow an entity to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs, as opposed to waiting until the asset is sold to an outside party. The Company is in the process of determining the effect that the adoption will have on its financial position and results of operations.

ASC Update No. 2017-04

In January 2017, the FASB issued ASC Update No. 2017-04, *Intangibles--Goodwill and Other (Topic 350): Simplifying the Test of Goodwill Impairment.* This ASC simplifies the accounting for goodwill impairment for all entities by requiring impairment charges to be based on the first step of the goodwill impairment test under ASC 350. Under previous guidance, if the fair value of a reporting unit is lower than its carrying amount (Step 1), an entity calculates any impairment charge by comparing the implied fair value of goodwill with its carrying amount (Step 2). The implied fair value of goodwill is calculated by deducting the fair value of all assets and liabilities of the reporting unit from the reporting unit’s fair value as determined in Step 1. To determine the implied fair value of goodwill, entities estimate the fair value of any unrecognized intangible assets (including in-process research and development) and any corporate-level assets or liabilities that were included in the determination of the carrying amount and fair value of the reporting unit in Step 1. Under this new guidance if a reporting unit's carrying value exceeds its fair value, an entity will record an impairment charge based on that difference with such impairment charge limited to the amount of goodwill in the reporting unit. This ASC does not change the guidance on completing Step 1 of the goodwill impairment test. An entity will still be able to perform today’s optional qualitative goodwill impairment assessment before determining whether to proceed to Step 1. This ASC will be applied prospectively and is effective for annual and interim impairment test performed in periods beginning after December 15, 2019 for public business enterprises. Early adoption is permitted for annual and interim goodwill impairment testing dates after January 1, 2017. The Company elected to early adopt this ASC as of January 1, 2017. The adoption of this ASC had no impact on the Company's consolidated statements of operations, financial condition or cash flows. The Company expects that adoption of this ASC will simplify the evaluation and recording of goodwill impairment charges, if any.

ASC Update No. 2017-09

In May 2017, the FASB issued ASC Update No. 2017-09, *Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting.* The update is effective for annual periods beginning on or after December 15, 2017. Early adoption is permitted. The purpose of Update No. 2017-09 is to clarify when to account for a change to the terms or conditions of a share-based payment award as a modification under Topic 718, *Compensation - Stock Compensation*. Under this new guidance, modification accounting is only required if the fair value, the vesting conditions, or the equity or liability classification of the award changes as a result of the change in terms or conditions. The Company expects that the adoption of this standard will only affect, on a prospective basis, the manner in which the Company evaluates any changes to the terms or conditions of its share-based payment awards.

ASC Update No. 2017-11

In July 2017, the FASB issued ASC Update No. 2017-11, *Earnings Per Share (Topic 260), Distinguishing Liabilities from Equity (Topic 480) and Derivatives and Hedging (Topic 815): I. Accounting for Certain Financial Instruments with Down Round Features and II. Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests with a Scope Exception*. The update for Part I is effective for annual periods beginning on or after December 15, 2018. Early adoption is permitted. Part II does not require transition guidance as its amendments do not have an accounting effect. The purpose of Update No. 2017-11 is to reduce the complexity associated with the issuer's accounting for certain financial instruments with characteristics of liabilities and equity. Specifically, the FASB determined that a down-round feature (as defined) would no longer cause a freestanding equity-linked financial instrument to be accounted for as a derivative liability at fair value with changes in fair value recognized in current earnings, but instead would be recognized as a dividend and should be reflected as a reduction of income available to common stockholders in the computation of basic earnings per share. The Company is in the process of determining the effect that the adoption of this standard will have on its financial position and results of operations.

ASC Update No. 2017-12

In August 2017, the FASB issued ASC Update No. 2017-12, *Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities*. The update is effective for annual periods beginning after December 15, 2018. Early adoption is permitted. The purpose of Update No. 2017-12 is to improve the presentation and disclosure requirements for, and simplify the application and increase transparency of hedge accounting. The Company is in the process of determining the effect that the adoption of this standard will have on its financial position and results of operations.

ASC Update No. 2017-13

In September 2017, the FASB issued ASC Update No. 2017-13, *Revenue Recognition (Topic 605), Revenue from Contracts (Topic 606), Leases (Topic 840), and Leases (Topic 842): Amendments to SEC Paragraphs Pursuant to the Staff Announcement at the July 20, 2017 EITF Meeting and Rescission of Prior SEC Staff Announcements and Observer Comments*. The purpose of Update 2017-13 is to put the change of SEC paragraphs in context by showing the amended paragraphs. The Company will incorporate any and all amendments that are applicable to its filing.

There are no other recent accounting pronouncements issued by the FASB that would have a material impact on the Company's financial statements.

(4) Marketable Securities

Marketable securities as of September 30, 2017 and December 31, 2016 consisted of the following:

September 30, 2017	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market mutual funds	$ 5,545	$ —	$ —	$ 5,545
United States treasuries	2,010	—	(1)	2,009
Certificates of deposit	743	—	—	743
Total marketable securities designated as available-for-sale	$ 8,298	$ —	$ (1)	$ 8,297

December 31, 2016	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market mutual funds	$ 21,848	$ —	$ —	$ 21,848
Certificates of deposit	3,864	—	—	3,864
Total marketable securities designated as available-for-sale	$ 25,712	$ —	$ —	$ 25,712

The amortized costs and fair value of marketable securities as of September 30, 2017 and December 31, 2016 are shown below by effective maturity. Effective maturities may differ from contractual maturities because the issuers of the securities may have the right to prepay obligations without prepayment penalties.

September 30, 2017	Amortized Cost	Fair Value
Due in less than one year	$ 2,753	$ 2,752
December 31, 2016	**Amortized Cost**	**Fair Value**
Due in less than one year	$ 3,864	$ 3,864

Interest income from marketable securities was $25 and $26 during the three months ended September 30, 2017 and 2016, respectively, and $86 and $66 during the nine months ended September 30, 2017 and 2016, respectively.

(5) Stockholder's Equity

(a) Stock Equity and Incentive Plan

The Company adopted ASC Update No. 2016-09, *Compensation- Stock Compensation (ASC Topic 718): Improvements to Employee Share-Based Payment Accounting* on January 1, 2017. Although, this ASC update did not impact the Company’s results of operations, financial position or cash flows for any periods prior to the adoption, the adoption of this ASC update had the following impact on the date of adoption:

- The adoption of ASC Update No. 2016-09 requires all income tax adjustments to be recorded in the consolidated statements of operations. The cumulative adjustment upon adoption to accumulated earnings was zero since the increase in net deferred tax assets was fully offset by a corresponding increase in the deferred tax asset valuation allowance. The amount of deferred tax assets that had not been previously recognized due to the recognition of excess tax benefits was $1,571.

- The tax benefit or expense is required to be classified as a cash flow provided by (used in) operating activities. It was previously required to be presented as a cash flow provided by (used in) financing activities in the Consolidated Statements of Cash Flows, with a corresponding adjustment to operating cash flows.

- In the diluted net earnings per share calculation, when applying the treasury stock method for shares that could be repurchased, the assumed proceeds no longer include the amount of excess tax benefit. This provision, which is only applicable on a prospective basis, did not have an impact on the Company's diluted net earnings per share calculation for the three and nine months ended September 30, 2017.

- The Company has elected to account for forfeitures on share-based payments as these forfeitures occur, which represents a change from the accounting previously required under ASC Topic 718. As a result, future forfeitures could result in a significant reversal of stock-based compensation expense recognized in the period in which such forfeitures occur. During the three and nine months ended September 30, 2017, as a result of share-based award forfeitures, the Company recorded a reversal of previously recognized stock-based compensation expense of $71 and $128, respectively. In addition, had the Company continued to account for stock-based compensation expense related to forfeitures of share-based payments based on estimating the number of awards expected to be forfeited and recognizing only stock-based compensation expense on awards expected to vest, the Company would have recognized $866 and $2,571 of stock-based compensation expense, or $81 more and $6 less than what was actually recorded, during the three and nine months ended September 30, 2017, respectively.

The Company recognizes stock-based compensation in accordance with the provisions of ASC Topic 718, *Compensation--Stock Compensation*. Stock-based compensation expense, excluding compensation charges related to our employee stock purchase plan, or the ESPP, was $785 and $911 for the three months ended September 30, 2017 and 2016, respectively, and $2,577 and $2,792 for the nine months ended September 30, 2017 and 2016, respectively. As of September 30, 2017, there was $1,511 of total unrecognized compensation expense related to stock options, which is expected to be recognized over a weighted-average period of 3.02 years. As of September 30, 2017, there was $4,540 of total unrecognized compensation expense related to restricted stock awards, which is expected to be recognized over a weighted-average period of 2.39 years.

<u>Stock Options</u>

During the three months ended September 30, 2017, 7 stock options were exercised for common stock. Additionally, during the three months ended September 30, 2017, no stock options were granted and 38 stock options were forfeited.

During the nine months ended September 30, 2017, 121 stock options were exercised for common stock, none of which was delivered to the Company as payment for the exercise price or related minimum tax withholding obligations. Additionally, during the nine months ended September 30, 2017, 531 stock options were granted with a weighted average grant date fair value of $2.47 per share and 49 stock options were forfeited. The Company has estimated the fair value of each option grant on the date of grant using the Black-Scholes option-pricing model. The weighted average assumptions utilized to determine the fair value of options granted during the nine months ended September 30, 2017 and 2016 were as follows:

	Nine Months Ended September 30,	
	2017	2016
Risk-free interest rate	1.96%	1.43%
Expected volatility	35.53%	38.22%
Expected life (in years)	4.22	4.17
Dividend yield	0%	0%

As of September 30, 2017, there were 968 options outstanding with a weighted average exercise price of $9.79 per share and 320 options exercisable with a weighted average exercise price of $12.25 per share.

Restricted Stock

During the three months ended September 30, 2017, 40 shares of restricted stock were granted with a weighted average grant date fair value of $10.80 per share and 16 shares of restricted stock were forfeited. Additionally, during the three months ended September 30, 2017, 13 shares of restricted stock vested, of which no shares of common stock were surrendered to the Company as payment by employees in lieu of cash to satisfy minimum tax withholding obligations in connection with the vesting of restricted stock.

During the nine months ended September 30, 2017, 263 shares of restricted stock were granted with a weighted average grant date fair value of $8.75 per share and 33 shares of restricted stock were forfeited. Additionally, during the nine months ended September 30, 2017, 256 shares of restricted stock vested, of which 43 shares of common stock were surrendered to the Company as payment by employees in lieu of cash to satisfy minimum tax withholding obligations in connection with the vesting of restricted stock and these shares were immediately retired.

As of September 30, 2017, there were 619 shares of restricted stock outstanding still subject to service-based vesting conditions.

As of September 30, 2017, the Company had no shares of restricted stock that were subject to performance-based or market-based vesting conditions.

(b) Employee Stock Purchase Plan

On June 15, 2016, at the Company's 2016 Annual Meeting of Stockholders, the stockholders of the Company approved amendments to the Company's Amended and Restated 1996 Employee Stock Purchase Plan (ESPP) that, among other things, increased the number of shares of common stock reserved for issuance to a total of 1,650. As amended, the ESPP affords eligible employees the right to purchase common stock, via payroll deductions, through various offering periods at a purchase price equal to 85% of the fair market value of the common stock on the first or last day of the offering period, whichever is lower. During the three and nine months ended September 30, 2017, 0 and 26 shares were issued under the ESPP plan, respectively. During the three and nine months ended September 30, 2016, 0 and 18 shares were issued under the ESPP plan, respectively. The Company recorded compensation charges related to the ESPP of $24 and $0 for the three months ended September 30, 2017 and 2016, respectively, and $44 and $0 for the nine months ended September 30, 2017 and 2016, respectively.

(c) Stock- Based Compensation Expense

The following table presents stock-based compensation expense, including expense for the ESPP, in the Company's consolidated statements of operations for the three and nine months ended September 30, 2017 and 2016:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	**2016**	**2017**	**2016**
Cost of product sales	$ 68	$ 77	$ 222	$ 242
Cost of service sales	—	—	1	1
Research and development	155	168	514	520
Sales, marketing and support	190	263	679	787
General and administrative	396	403	1,205	1,242
	$ 809	**$ 911**	**$ 2,621**	**$ 2,792**

(d) Accumulated Other Comprehensive Loss

Comprehensive income (loss) includes net earnings (loss), unrealized gains and losses from foreign currency translation, unrealized gains and losses from available for sale marketable securities and changes in fair value related to interest rate swap derivative instruments, net of tax attributes, which were not material. The components of the Company's comprehensive income (loss) and the effect on earnings for the periods presented are detailed in the accompanying consolidated statements of comprehensive income (loss).

The balances for the three months ended September 30, 2017 and 2016 are as follows:

	Foreign Currency Translation	Unrealized Gain (Loss) on Available for Sale Marketable Securities	Interest Rate Swaps	Total Accumulated Other Comprehensive Loss
Balance, June 30, 2017	**$ (13,610)**	**$ (3)**	**$ (113)**	**$ (13,726)**
Other comprehensive income before reclassifications	1,956	2	1	1,959
Amounts reclassified from AOCI to Other income, net	—	—	18	18
Net other comprehensive income, September 30, 2017	1,956	2	19	1,977
Balance, September 30, 2017	**$ (11,654)**	**$ (1)**	**$ (94)**	**$ (11,749)**

	Foreign Currency Translation	Unrealized Gain (Loss) on Available for Sale Marketable Securities	Interest Rate Swaps	Total Accumulated Other Comprehensive Loss
Balance, June 30, 2016	**$ (12,511)**	**$ 1**	**$ (249)**	**$ (12,759)**
Other comprehensive (loss) income before reclassifications	(2,238)	—	11	(2,227)
Amounts reclassified from AOCI to Other income, net	—	—	26	26
Net other comprehensive (loss) income, September 30, 2016	(2,238)	—	37	(2,201)
Balance, September 30, 2016	**$ (14,749)**	**$ 1**	**$ (212)**	**$ (14,960)**

For additional information, see Note 4, "Marketable Securities." and Note 17, "Derivative Instruments and Hedging Activities."

The balances for the nine months ended September 30, 2017 and 2016 are as follows:

	Foreign Currency Translation	Unrealized Gain (Loss) on Available for Sale Marketable Securities	Interest Rate Swaps	Total Accumulated Other Comprehensive Loss
Balance, December 31, 2016	**$ (16,651)**	**$ —**	**$ (158)**	**$ (16,809)**
Other comprehensive income (loss) before reclassifications	4,997	(1)	5	5,001
Amounts reclassified from AOCI to Other income, net	—	—	59	59
Net other comprehensive income (loss), September 30, 2017	4,997	(1)	64	5,060
Balance, September 30, 2017	**$ (11,654)**	**$ (1)**	**$ (94)**	**$ (11,749)**

	Foreign Currency Translation	Unrealized Gain (Loss) on Available for Sale Marketable Securities	Interest Rate Swaps	Total Accumulated Other Comprehensive Loss
Balance, December 31, 2015	**$ (7,363)**	**$ 1**	**$ (238)**	**$ (7,600)**
Other comprehensive loss before reclassifications	(7,386)	—	(50)	(7,436)
Amounts reclassified from AOCI to Other income, net	—	—	76	76
Net other comprehensive (loss) income, September 30, 2016	(7,386)	—	26	(7,360)
Balance, September 30, 2016	**$ (14,749)**	**$ 1**	**$ (212)**	**$ (14,960)**

For additional information, see Note 4, "Marketable Securities." and Note 17, "Derivative Instruments and Hedging Activities."

(6) Net (Loss) Income per Common Share

Basic net (loss) income per share is calculated based on the weighted average number of common shares outstanding during the period. Diluted net (loss) income per share incorporates the dilutive effect of common stock equivalent options, warrants and other convertible securities, if any, as determined with the treasury stock accounting method. For the three and nine months ended September 30, 2017, since there was a net loss, the Company excluded 180 and 202, respectively, in outstanding stock options and non-vested restricted shares from its diluted loss per share calculation, as inclusion of these securities would have reduced the net loss per share. For the nine months ended September 30, 2016, the Company excluded 130 outstanding stock options and non-vested restricted shares from its diluted loss per share calculation, as inclusion of these securities would have reduced the net loss per share.

A reconciliation of the basic and diluted weighted average common shares outstanding is as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Weighted average common shares outstanding—basic	16,469	15,845	16,393	15,798
Dilutive common shares issuable in connection with stock plans	—	70	—	—
Weighted average common shares outstanding—diluted	16,469	15,915	16,393	15,798

(7) Inventories

The Company adopted ASC 2015-11, *Simplifying the Measurement of Inventory* as of January 1, 2017. ASC 2015-11 simplifies the subsequent measurement of inventory by replacing the lower of cost or market test with a lower of cost or net realizable value test. The adoption of this standard did not have a material impact on the Company's consolidated financial position or results of operations. Inventories are stated at the lower of cost or net realizable value using the first-in first-out costing method. Inventories as of September 30, 2017 and December 31, 2016 include the costs of material, labor, and factory overhead. Components of inventories consist of the following:

	September 30, 2017	December 31, 2016
Raw materials	$ 12,159	$ 10,606
Work in process	2,088	2,185
Finished goods	7,403	7,954
	$ 21,650	$ 20,745

(8) Property and Equipment

Property and equipment, net, as of September 30, 2017 and December 31, 2016 consist of the following:

	September 30, 2017	December 31, 2016
Land	$ 3,828	$ 3,828
Building and improvements	24,058	21,717
Leasehold improvements	428	155
Machinery and equipment	46,360	41,777
Office and computer equipment	17,785	14,824
Motor vehicles	51	51
	92,510	82,352
Less accumulated depreciation	(49,907)	(45,766)
	$ 42,603	$ 36,586

Depreciation expense was $1,649 and $1,690 for the three months ended September 30, 2017 and 2016, respectively, and $4,956 and $5,412 for the nine months ended September 30, 2017 and 2016, respectively.

Included within machinery and equipment are certain revenue generating hardware assets that had a net book value of $8,621 and $7,734 as of September 30, 2017 and December 31, 2016, respectively, that are utilized in the delivery of the Company's airtime services, media, and other content.

(9) Product Warranty

The Company's products carry standard limited warranties that range from one to two years and vary by product. The warranty period begins on the date of retail purchase or lease by the original purchaser. The Company accrues estimated product warranty costs at the time of sale and any additional amounts are recorded when such costs are probable and can be reasonably estimated. Factors that affect the Company's warranty liability include the number of units sold or leased, historical and anticipated rates of warranty repairs and the cost per repair. Warranty and related costs are reflected within sales, marketing and support in the accompanying consolidated statements of operations. As of September 30, 2017 and December 31, 2016, the Company had accrued product warranty costs of $2,315 and $2,280, respectively.

The following table summarizes product warranty activity during 2017 and 2016:

	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2016
Beginning balance	$ 2,280	$ 1,880
Charges to expense	845	1,543
Costs incurred	(810)	(1,167)
Ending balance	$ 2,315	$ 2,256

(10) Debt

Long-term debt consisted of the following:

	September 30, 2017	December 31, 2016
Term note	$ 44,850	$ 53,625
Mortgage loan	2,822	2,951
Equipment loans	—	1,477
Total	47,672	58,053
Less amounts classified as current	2,479	7,900
Long-term debt, excluding current portion	$ 45,193	$ 50,153

Term Note and Line of Credit

On July 1, 2014, the Company entered into (i) a five-year senior credit facility agreement (the Credit Agreement) with Bank of America, N.A., as Administrative Agent, and the lenders named from time to time as parties thereto (the Lenders), for an aggregate amount of up to $80,000, including a revolving credit facility (the Revolver) of up to $15,000 and a term loan (Term Loan) of $65,000 to be used for general corporate purposes, including both (A) the refinancing of the Company's $30,000 then-outstanding indebtedness under its previous credit facility and (B) permitted acquisitions, (ii) revolving credit notes (together, the Revolving Credit Note) to evidence the Revolver, (iii) term notes (together, the Term Note, and together with the Revolving Credit Note, the Notes) to evidence the Term Loan, (iv) a Security Agreement (the Security Agreement) required by the Lenders with respect to the grant by the Company of a security interest in substantially all of the assets of the Company in order to secure the obligations of the Company under the Credit Agreement and the Notes, and (v) Pledge Agreements (the Pledge Agreements) required by the Lenders with respect to the grant by the Company of a security interest in 65% of the capital stock of each of KVH Industries A/S and KVH Industries U.K. Limited held by the Company in order to secure the obligations of the Company under the Credit Agreement and the Notes.

The Credit Agreement was amended in March 2017 to modify the Maximum Consolidated Leverage Ratio, the Applicable Rate, the Consolidated Fixed Charge Coverage Ratio and the amortization schedule of the Term Loan, as well as to make certain other changes. The amendment was accounted for as a debt modification as it did not result in a significant modification to the Credit Agreement.

In connection with the March 2017 amendment, the Company made an additional principal repayment of $6,000 on the Term Note and amended the repayment terms. Under the amended terms, the Company must make principal repayments of $575 every three months starting on April 1, 2017 until the Term Note maturity on July 1, 2019. On the maturity date, the entire remaining principal balance of the loan, including any future loans under the Revolver, is due and payable, together with all accrued and unpaid interest, penalties, and any other amounts due and payable under the Credit Agreement. The Credit Agreement contains provisions requiring the mandatory prepayment of amounts outstanding under the Term Loan and the Revolver under specified circumstances, including (i) 100% of the net cash proceeds from certain dispositions to the extent not reinvested in the Company’s business within a stated period, (ii) 50% of the net cash proceeds from stated equity issuances and (iii) 100% of the net cash proceeds from certain receipts of more than $250 outside the ordinary course of business. The prepayments are first applied to the Term Loan, in inverse order of maturity, and then to the Revolver. In the discretion of the Administrative Agent, certain mandatory prepayments made on the Revolver can permanently reduce the amount of credit available under the Revolver.

Loans under the Credit Agreement bear interest at varying rates determined in accordance with the Credit Agreement. Each LIBOR Rate Loan, as defined in the Credit Agreement, bears interest on the outstanding principal amount thereof for each interest period from the applicable borrowing date at a rate per annum equal to the LIBOR Daily Floating Rate or LIBOR Monthly Floating Rate, each as defined in the Credit Agreement, as applicable, plus the Applicable Rate, as defined in the Credit Agreement, and each Base Rate Loan, as defined in the Credit Agreement, bears interest on the outstanding principal amount thereof from the applicable borrowing date at a rate per annum equal to the Base Rate, as defined in the Credit Agreement, plus the Applicable Rate. The Applicable Rate ranges from 1.75% to 2.25%, depending on the Company’s Consolidated Leverage Ratio, as defined in the Credit Agreement. The highest Applicable Rate applies when the Consolidated Leverage Ratio exceeds 1.50:1.00. Upon certain defaults, including failure to make payments when due, interest becomes payable at a higher default rate.

Borrowings under the Revolver are subject to the satisfaction of numerous conditions precedent at the time of each borrowing, including the continued accuracy of the Company’s representations and warranties and the absence of any default under the Credit Agreement. As of September 30, 2017, there were no borrowings outstanding under the Revolver and the full balance of $15,000 was available for borrowing.

The Credit Agreement contains two financial covenants, a Maximum Consolidated Leverage Ratio and a Minimum Consolidated Fixed Charge Coverage Ratio, each as defined in the Credit Agreement. The Maximum Consolidated Leverage Ratio may not be greater than 1.50:1.00. The Minimum Consolidated Fixed Charge Coverage Ratio may not be less than 1.25:1.00. In the March 2017 amendment, the definition of the Consolidated Fixed Charge Coverage Ratio was amended to include only maintenance capital expenditures as defined. The Company was in compliance with these financial ratio debt covenants as of September 30, 2017.

The Credit Agreement imposes certain other affirmative and negative covenants, including without limitation covenants with respect to the payment of taxes and other obligations, compliance with laws, entry into material contracts, creation of liens, incurrence of indebtedness, investments, dispositions, fundamental changes, restricted payments, changes in the nature of the Company’s business, transactions with affiliates, corporate and accounting changes, and sale and leaseback arrangements.

The Company’s obligation to repay loans under the Credit Agreement could be accelerated upon a default or event of default under the terms of the Credit Agreement, including certain failures to pay principal or interest when due, certain breaches of representations and warranties, the failure to comply with the Company’s affirmative and negative covenants under the Credit Agreement, a change of control of the Company, certain defaults in payment relating to other indebtedness, the acceleration of payment of certain other indebtedness, certain events relating to the liquidation, dissolution, bankruptcy, insolvency or receivership of the Company, the entry of certain judgments against the Company, certain events relating to the impairment of collateral or the Lenders' security interest therein, and any other material adverse change with respect to the Company.

Mortgage Loan

The Company has a mortgage loan (as amended, the Mortgage Loan) in the amount of $4,000 related to its headquarters facility in Middletown, Rhode Island. The loan term is ten years, with a principal amortization of 20 years. The interest rate is based on the BBA LIBOR Rate plus 2.00 percentage points. The Mortgage Loan is secured by the underlying property and improvements. The monthly mortgage payment is approximately $14, plus interest, and increases in increments of approximately $1 each year over the life of the mortgage. Due to the difference in the term of the loan and amortization of the principal, a balloon payment of $2,551 is due on April 6, 2019. The loan contains one financial covenant, a Fixed Charge Coverage Ratio, which applies in the event that the Company's consolidated cash, cash equivalents and marketable securities balance falls below $25,000 at any time. As the Company's consolidated cash, cash equivalents, and marketable securities balance was above the minimum threshold throughout the nine months ended September 30, 2017, the Fixed Charge Coverage Ratio did not apply.

Under the Mortgage Loan, the Company may prepay its outstanding loan balance subject to certain early termination charges as defined in the Mortgage Loan agreement. If the Company were to default on the Mortgage Loan, the underlying and improvements would be used as collateral. As discussed in Note 17, the Company entered into two interest rate swap agreements that are intended to hedge its mortgage interest obligations by fixing the interest rates specified in the Mortgage Loan to 5.91% for half of the principal amount outstanding and 6.07% for the remaining half of the principal amount outstanding as of April 1, 2010, over the term of the Mortgage Loan.

Equipment Loans

In January 2013, the Company borrowed $4,700 from a bank and pledged as collateral six satellite hubs and related equipment. This equipment loan had a term of five years, and carried a fixed rate of interest of 2.76% per annum. In December 2013, the Company borrowed $1,200 from a bank and pledged as collateral one satellite hub and related equipment. This equipment loan had a term of five years, and carried a fixed rate of interest of 3.08% per annum. In March 2017, the Company repaid in full the remaining outstanding balances of both loans before their 2018 maturity dates.

(11) Segment Reporting

The financial results of each segment are based on revenues from external customers, cost of revenue and operating expenses that are directly attributable to the segment and an allocation of costs from shared functions. These shared functions include, but are not limited to, facilities, human resources, information technology, and engineering. Allocations are made based on management’s judgment of the most relevant factors, such as head count, number of customer sites, or other operational data that contribute to the shared costs. Certain corporate-level costs have not been allocated as they are not directly attributable to either segment. These costs primarily consist of broad corporate functions, including executive, legal, finance, and costs associated with corporate actions. Segment-level asset information has not been provided as such information is not reviewed by the chief operating decision-maker for purposes of assessing segment performance and allocating resources. There are no inter-segment sales or transactions.

The Company's performance is impacted by the levels of activity in the marine and land mobile markets and defense sectors, among others. Performance in any particular period could be impacted by the timing of sales to certain large customers.

The mobile connectivity segment primarily manufactures and distributes a comprehensive family of mobile satellite antenna products and services that provide access to television, the Internet and voice services while on the move. Product sales within the mobile connectivity segment accounted for 18% and 22% of consolidated net sales for the three months ended September 30, 2017 and 2016, respectively, and 21% and 25% of consolidated net sales for the nine months ended September 30, 2017 and 2016, respectively. Sales of mini-VSAT Broadband airtime service accounted for 42% and 37% of consolidated net sales for the three months ended September 30, 2017 and 2016, respectively, and 41% and 36% of consolidated net sales for the nine months ended September 30, 2017 and 2016, respectively. Sales of content and training services within the mobile connectivity segment accounted for 20% and 19% of consolidated net sales for the three months ended September 30, 2017 and 2016, respectively, and 20% and 20% of consolidated net sales for the nine months ended September 30, 2017 and 2016, respectively.

The inertial navigation segment manufactures and distributes a portfolio of digital compass and fiber optic gyro (FOG)-based systems that address the rigorous requirements of military and commercial customers and provide reliable, easy-to-use and continuously available navigation and pointing data. The principal product categories in this segment include the FOG-based inertial measurement units (IMUs) for precision guidance, FOGs for tactical navigation as well as pointing and stabilization systems, and digital compasses that provide accurate heading information for demanding applications, security, automation and access control equipment and systems. Sales of FOG-based guidance and navigation systems within the inertial navigation segment accounted for 13% and 9% of the consolidated net sales for the three months ended September 30, 2017 and 2016, respectively, and 12% and 9% of the consolidated net sales for the nine months ended September 30, 2017 and 2016, respectively.

No other single product class accounts for 10% or more of consolidated net sales.

The Company operates in a number of major geographic areas across the globe. The Company generates international net sales, based upon customer location, primarily from customers located in Canada, Europe, Africa, Asia/Pacific, the Middle East, and India. International revenues represented 60% and 62% of consolidated net sales for the three months ended September 30, 2017 and 2016, respectively, and 61% and 63% of consolidated net sales for the nine months ended September 30, 2017 and 2016, respectively. Sales to Canada represented 12% and 11% of consolidated net sales for the three and nine months ended September 30, 2016. No other individual foreign country represented 10% or more of the Company's consolidated net sales for the three and nine months ended September 30, 2016. No individual foreign country represented 10% or more of consolidated net sales for the three and nine months ended September 30, 2017.

As of September 30, 2017 and December 31, 2016, the long-lived tangible assets related to the Company’s international subsidiaries were less than 10% of the Company’s long-lived tangible assets and were deemed not material.

Net sales and operating earnings (loss) for the Company's reporting segments and the Company's loss before income tax expense (benefit) for the three and nine months ended September 30, 2017 and 2016 were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Net sales:				
Mobile connectivity	$ 32,762	$ 36,453	$ 101,083	$ 108,608
Inertial navigation	7,688	9,393	20,027	23,584
Consolidated net sales	$ 40,450	$ 45,846	$ 121,110	$ 132,192
Operating (loss) earnings:				
Mobile connectivity	$ 2,067	$ 4,556	$ 5,327	$ 8,177
Inertial navigation	349	2,126	667	2,795
Subtotal	2,416	6,682	5,994	10,972
Unallocated, net	(4,217)	(3,669)	(13,633)	(12,026)
(Loss) income from operations	(1,801)	3,013	(7,639)	(1,054)
Net interest and other (expense) income	(354)	(279)	(911)	(717)
(Loss) income before income tax expense (benefit)	$ (2,155)	$ 2,734	$ (8,550)	$ (1,771)

Depreciation expense and amortization expense for the Company's segments are presented in the following table for the periods presented:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Depreciation expense:				
Mobile connectivity	$ 1,339	$ 1,447	$ 4,212	$ 4,673
Inertial navigation	293	218	687	667
Unallocated	17	25	57	72
Total consolidated depreciation expense	$ 1,649	$ 1,690	$ 4,956	$ 5,412
Amortization expense:				
Mobile connectivity	$ 1,096	$ 1,145	$ 3,266	$ 3,678
Inertial navigation	—	—	—	—
Unallocated	—	—	—	—
Total consolidated amortization expense	$ 1,096	$ 1,145	$ 3,266	$ 3,678

(12) Legal Matters

From time to time, the Company is involved in litigation incidental to the conduct of its business. In the ordinary course of business, the Company is a party to inquiries, legal proceedings and claims including, from time to time, disagreements with vendors and customers. The Company is not a party to any lawsuit or proceeding that, in management's opinion, is likely to materially harm the Company's business, results of operations, financial condition, or cash flows.

(13) Share Buyback Program

On November 26, 2008, the Company’s Board of Directors authorized a program to repurchase up to 1,000 shares of the Company’s common stock. As of September 30, 2017, 341 shares of the Company’s common stock remain available for repurchase under the authorized program. The repurchase program is funded using the Company’s existing cash, cash equivalents, marketable securities and future cash flows. Under the repurchase program, the Company, at management’s discretion, may repurchase shares on the open market from time to time, in privately negotiated transactions or block transactions, or through an accelerated repurchase agreement. The timing of such repurchases depends on availability of shares, price, market conditions, alternative uses of capital, and applicable regulatory requirements. The program may be modified, suspended or terminated at any time without prior notice. The repurchase program has no expiration date. There were no other repurchase programs outstanding during the nine months ended September 30, 2017 and no repurchase programs expired during the period.

During the nine months ended September 30, 2017 and 2016, the Company did not repurchase any shares of its common stock.

(14) Fair Value Measurements

ASC Topic 820, *Fair Value Measurements and Disclosures* (ASC 820), provides a framework for measuring fair value and requires expanded disclosures regarding fair value measurements. ASC 820 defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. ASC 820 also establishes a fair value hierarchy, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. ASC 820 describes three levels of inputs that may be used to measure fair value:

Level 1: Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities. The Company’s Level 1 assets are investments in money market mutual funds, U.S. treasury securities, and certificates of deposit.

Level 2: Quoted prices for similar assets or liabilities in active markets; or observable prices that are based on observable market data, based on directly or indirectly market-corroborated inputs. The Company’s Level 2 liabilities are interest rate swaps.

Level 3: Unobservable inputs that are supported by little or no market activity, and are developed based on the best information available given the circumstances. The Company has no Level 3 assets.

Assets and liabilities measured at fair value are based on the valuation techniques identified in the table below. The valuation techniques are:

(a) Market approach—prices and other relevant information generated by market transactions involving identical or comparable assets.

(b) The valuations of the interest rate swaps intended to mitigate the Company’s interest rate risk are determined with the assistance of a third-party financial institution using widely accepted valuation techniques, including discounted cash flow analysis on the expected cash flows of each instrument. This analysis utilizes observable market-based inputs, including interest rate curves and interest rate volatility, and reflects the contractual terms of these instruments, including the period to maturity.

The following tables present financial assets and liabilities at September 30, 2017 and December 31, 2016 for which the Company measures fair value on a recurring basis, by level, within the fair value hierarchy:

September 30, 2017	Total	Level 1	Level 2	Level 3	Valuation Technique
Assets					
Money market mutual funds	$ 5,545	$ 5,545	$ —	$ —	(a)
United States treasuries	2,009	2,009	—	—	(a)
Certificates of deposit	743	743	—	—	(a)
Liabilities					
Interest rate swaps	94	—	94	—	(b)

December 31, 2016	Total	Level 1	Level 2	Level 3	Valuation Technique
Assets					
Money market mutual funds	$ 21,848	$ 21,848	$ —	$ —	(a)
Certificates of deposit	3,864	3,864	—	—	(a)
Liabilities					
Interest rate swaps	158	—	158	—	(b)

Certain financial instruments are carried at cost on the consolidated balance sheets, which approximates fair value due to their short-term, highly liquid nature. These instruments include cash and cash equivalents, accounts receivable, accounts payable, and accrued expenses. The carrying amount of the Company's debt approximates fair value based on currently available quoted rates of similarly structured debt.

Assets Measured and Recorded at Fair Value on a Nonrecurring Basis

The Company's non-financial assets, such as goodwill, intangible assets, and other long-lived assets resulting from business combinations, are measured at fair value using income approach valuation methodologies at the date of acquisition and subsequently re-measured if an impairment exists. There were no impairments of the Company’s non-financial assets noted as of September 30, 2017. The Company does not have any liabilities that are recorded at fair value on a non-recurring basis.

(15) Goodwill and Intangible Assets

Goodwill

The following table sets forth the changes in the carrying amount of goodwill for the nine months ended September 30, 2017:

		Amounts
Balance at December 31, 2016	$	31,343
Foreign currency translation adjustment		2,331
Balance at September 30, 2017	$	33,674

ASC Topic 350, *Intangibles—Goodwill and Other* (ASC 350) requires the completion of a goodwill impairment test at least annually. Historically, this goodwill impairment test was comprised of a two-step process. In January 2017, the FASB issued ASC Update No. 2017-04, *Intangibles—Goodwill and Other (Topic 350): Simplifying the Test of Goodwill Impairment*. This ASC simplified the accounting for goodwill impairment for all entities by requiring impairment charges to be based on the first step of the goodwill impairment test under ASC 350. Under previous guidance, if the fair value of a reporting unit is lower than its carrying amount (Step 1), an entity calculates any impairment charge by comparing the implied fair value of goodwill with its carrying amount (Step 2). The implied fair value of goodwill is calculated by deducting the fair value of all assets and liabilities of the reporting unit from the reporting unit's fair value as determined in Step 1. To determine the implied fair value of goodwill, entities estimate the fair value of any unrecognized intangible assets (including in-process research and development) and any corporate-level assets or liabilities that were included in the determination of the carrying amount and fair value of the reporting unit in Step 1. Under this new guidance if a reporting unit's carrying value exceeds its fair value, an entity will record an impairment charge based on that difference with such impairment charge limited to the amount of goodwill in the reporting unit. This ASC does not change the guidance on completing Step 1 of the goodwill impairment test. An entity will still be able to perform today's optional qualitative goodwill impairment assessment before determining whether to proceed to Step 1. This ASC will be applied prospectively and is effective for annual and interim impairment test performed in periods beginning after December 15, 2019 for public business enterprises. Early adoption is permitted for annual and interim goodwill impairment testing dates after January 1, 2017. The Company has elected to early adopt this ASC as of January 1, 2017. The adoption of this ASC had no impact on the Company's consolidated statements of operations, financial condition or cash flows.

As of August 31, 2017, the Company performed its annual impairment test for goodwill at the reporting unit level and concluded that the fair value of its reporting units exceeded their carrying value. To date, the Company has not had accumulated goodwill impairment losses. The Company utilized an income approach and market approaches to estimate the fair value of the Company's reporting units. The Company believes that the assumptions it used to estimate the fair value of its reporting units were reasonable. As an additional corroborative test of the reasonableness of those assumptions, the Company completed a reconciliation of its market capitalization and overall enterprise value to the fair value of all of its reporting units as of August 31, 2017. If different assumptions were used, particularly with respect to estimating future cash flows, weighted average costs of capital, and terminal growth rates, different estimates of fair value may have resulted. However, based on the excess of fair value over carrying value and additional sensitivity analysis considered with respect to the Company's valuation assumptions, the Company concluded that it was more-likely-than-not that no goodwill impairment exists. The Company notes that, as of August 31, 2017, the fair value of all of the Company's reporting units exceeded their carrying values by more than 10%. A negative trend of operating results or material changes to forecasted operating results could result in the requirement for additional interim goodwill impairment tests and the potential of a future goodwill impairment charge, which could be material.

Intangible Assets

The changes in the carrying amount of intangible assets during the nine months ended September 30, 2017 are as follows:

		Amounts
Balance at December 31, 2016	$	17,838
Amortization expense		(3,266)
Intangible assets acquired in asset acquisition		105
Foreign currency translation adjustment		1,370
Balance at September 30, 2017	$	16,047

Intangible assets arose from an acquisition made prior to 2013, the acquisition of KVH Media Group (acquired as Headland Media Limited) in May 2013 and the acquisition of Videotel in July 2014. Intangibles arising from the acquisition made prior to 2013 are being amortized on a straight-line basis over an estimated useful life of 7 years. Intangibles arising from the acquisition of KVH Media Group are being amortized on a straight-line basis over the estimated useful life of: (i) 10 years for acquired subscriber relationships, (ii) 15 years for distribution rights, (iii) 3 years for internally developed software and (iv) 2 years for proprietary content. Intangibles arising from the acquisition of Videotel are being amortized on a straight-line basis over the estimated useful life of: (i) 8 years for acquired subscriber relationships, (ii) 5 years for favorable leases, (iii) 4 years for internally developed software and (iv) 5 years for proprietary content. The intangibles arising from the KVH Media Group and Videotel acquisitions were recorded in pounds sterling and fluctuations in exchange rates could cause these amounts to increase or decrease from time to time.

In January 2017, the Company completed the acquisition of certain subscriber relationships from a third party. This acquisition did not meet the definition of a business under ASC 2017-01, *Business Combinations (Topic 805)-Clarifying the Definition of a Business*, which the Company adopted on October 1, 2016. The Company ascribed $100 of the initial purchase price to the acquired subscriber relationships definite-lived intangible assets with an initial estimated useful life of 10 years. Under the asset purchase agreement, the purchase price includes a component of contingent consideration under which the Company is required to pay a percentage of recurring revenues received from the acquired subscriber relationships through 2026 up to a maximum annual payment of $114. As the acquisition did not represent a business combination, the contingent consideration arrangement is recognized only when the contingency is resolved and the consideration is paid or becomes payable. The amounts payable under the contingent consideration arrangement, if any, will be included in the measurement of the cost of the acquired subscriber relationships. During the nine months ended September 30, 2017, $5 in consideration was earned under the contingent consideration arrangement.

Acquired intangible assets are subject to amortization. The following table summarizes acquired intangible assets at September 30, 2017 and December 31, 2016, respectively:

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value
September 30, 2017			
Subscriber relationships	$ 17,825	$ 7,853	$ 9,972
Distribution rights	4,367	1,381	2,986
Internally developed software	2,323	2,134	189
Proprietary content	8,211	5,527	2,684
Intellectual property	647	431	216
Favorable lease	2,284	2,284	—
	$ 35,657	$ 19,610	$ 16,047
December 31, 2016			
Subscriber relationships	$ 16,888	$ 6,431	$ 10,457
Distribution rights	4,122	1,180	2,942
Internally developed software	2,301	1,904	397
Proprietary content	7,960	4,431	3,529
Intellectual property	2,284	2,056	228
Favorable lease	627	342	285
	$ 34,182	$ 16,344	$ 17,838

Amortization expense related to intangible assets for the three and nine months ended September 30, 2017 and 2016 was as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
Expense Category	**2017**	**2016**	**2017**	**2016**
Cost of service sales	$ 375	$ 375	$ 1,097	$ 1,244
General administrative expense	721	770	2,169	2,434
Total amortization expense	$ 1,096	$ 1,145	$ 3,266	$ 3,678

As of September 30, 2017, the total weighted average remaining useful lives of the definite-lived intangible assets was 4.4 years and the weighted average remaining useful lives by the definite-lived intangible asset category are as follows:

Intangible Asset	Weighted Average Remaining Useful Life in Years
Subscriber relationships	5.1
Distribution rights	10.6
Internally developed software	0.7
Proprietary content	1.8
Intellectual property	0.0
Favorable lease	1.8

Estimated future amortization expense remaining at September 30, 2017 for intangible assets acquired is as follows:

Remainder of 2017	$	1,055
2018		4,051
2019		3,098
2020		2,273
2021		2,273
Thereafter		3,297
Total future amortization expense	$	16,047

For intangible assets, the Company assesses the carrying value of these assets whenever events or circumstances indicate that the carrying value may not be recoverable. Recoverability of assets to be held and used is measured by comparing the carrying amount of an asset, or asset group, to the future undiscounted cash flows expected to be generated by the asset, or asset group. There were no events or changes in circumstances during the third quarter of 2017 which indicated that an assessment of the impairment of goodwill and intangible assets was required.

(16) Business and Credit Concentrations

Concentrations of risk with respect to trade accounts receivable are generally limited due to the large number of customers and their dispersion across several geographic areas. Although the Company does not foresee that credit risk associated with these receivables will deviate from historical experience, repayment is dependent upon the financial stability of those individual customers. The Company establishes allowances for potential bad debts and evaluates, on a monthly basis, the adequacy of those reserves based upon historical experience and its expectations for future collectability concerns. The Company performs ongoing credit evaluations of the financial condition of its customers and generally does not require collateral.

No single customer accounted for 10% or more of consolidated net sales for three and nine months ended September 30, 2017 or 2016 or accounts receivable at September 30, 2017 or December 31, 2016.

Certain components from third parties used in the Company’s products are procured from single sources of supply. The failure of a supplier, including a subcontractor, to deliver on schedule could delay or interrupt the Company’s delivery of products and thereby materially adversely affect the Company’s revenues and operating results.

(17) Derivative Instruments and Hedging Activities

Effective April 1, 2010, in order to reduce the volatility of cash outflows that arise from changes in interest rates, the Company entered into two interest rate swap agreements. These interest rate swap agreements are intended to hedge the Company’s mortgage loan related to its headquarters facility in Middletown, Rhode Island by fixing the interest rates specified in the mortgage loan to 5.91% for half of the principal amount outstanding and 6.07% for the remaining half of the principal amount outstanding as of April 1, 2010 until the mortgage loan expires on April 16, 2019. The Company does not use derivatives for speculative purposes. For a derivative that is designated as a cash flow hedge, changes in the fair value of the derivative are recognized in accumulated other comprehensive (loss) income (AOCI) to the extent the derivative is effective at offsetting the changes in the cash flows being hedged until the hedged item affects earnings. As the Company makes the required principal and interest payments under the mortgage loan and the related interest rate swaps are settled, the Company reclassifies the amounts recorded in AOCI related to the changes in the fair value of the settled interest rate swaps to earnings. To the extent there is any hedge ineffectiveness, changes in fair value relating to the ineffective portion are immediately recognized in earnings in other income (expense) in the consolidated statements of income. The interest rate swap is recorded within accrued other liabilities on the balance sheet. The critical terms of the interest rate swaps were designed to mirror the terms of the Company’s mortgage loans. The Company designated these derivatives as cash flow hedges of the variability of the LIBOR-based interest payments on principal over a nine-year period, which ends on April 1, 2019. As of September 30, 2017, the Company determined that the existence of hedge ineffectiveness, if any, was immaterial and all changes in the fair value of the interest rate caps were recorded in the consolidated statements of comprehensive (loss) income as a component of AOCI.

As of September 30, 2017, the Company had the following outstanding interest rate derivatives that were designated as cash flow hedges of interest rate risk:

Interest Rate Derivatives	Notional (in thousands)	Asset (Liability)	Effective Date	Maturity Date	Index	Strike Rate
Interest rate swap	$ 1,411	$ (45)	April 1, 2010	April 1, 2019	1-month LIBOR	5.91%
Interest rate swap	$ 1,411	$ (49)	April 1, 2010	April 1, 2019	1-month LIBOR	6.07%

As of December 31, 2016, the Company had the following outstanding interest rate derivatives that were designated as cash flow hedges of interest rate risk:

Interest Rate Derivatives	Notional (in thousands)	Asset (Liability)	Effective Date	Maturity Date	Index	Strike Rate
Interest rate swap	$ 1,476	$ (76)	April 1, 2010	April 1, 2019	1-month LIBOR	5.91%
Interest rate swap	$ 1,476	$ (82)	April 1, 2010	April 1, 2019	1-month LIBOR	6.07%

(18) Income Taxes

The Company's effective tax rate for the three and nine months ended September 30, 2017 were (13.1)% and (9.3)%, respectively, compared with (4.7)% and 58.5% for the corresponding periods in the prior year, respectively. The effective income tax rates were based on estimated income for the year, the estimated composition of the income in different jurisdictions and discrete adjustments, if any, in the applicable periods, including retroactive changes in tax legislation, settlements of tax audits or assessments and the resolution or identification of tax position uncertainties.

For both the three and nine months ended September 30, 2017, the effective tax rates were lower than the statutory tax rate primarily due to the Company maintaining a valuation allowance reserve on its US deferred tax assets and the composition of income from foreign jurisdictions that were taxed at lower rates compared to the statutory tax rates in the U.S. For the three months ended September 30, 2016, the effective tax rate was lower and for the nine months ended September 30, 2016 the effective tax rate was higher than the statutory tax rate primarily due to the composition of income from foreign jurisdictions taxed at lower rates and the impact of discrete items.

As of January 1, 2017 the Company adopted ASC 2016-09, *Improvements to Employee Share-Based Payment Accounting* (ASC 2016-09). In accordance with ASC 2016-09, previously unrecognized excess tax benefits are recognized on a modified retrospective basis. On January 1, 2017, the Company recorded a $1,117 deferred tax asset related to unrecognized excess tax benefits with an offsetting adjustment to retained earnings. As the Company had previously recorded a full valuation allowance on its U.S. deferred tax assets, a corresponding increase to the valuation allowance was recorded with an offsetting adjustment to retained earnings. During the three and nine months ended September 30, 2017, exercises of non-qualified stock options and releases of restricted stock awards resulted in shortfalls and related tax expense of $27 and $365, respectively. The Company recorded equal offsetting tax benefits resulting from corresponding decreases to the valuation allowance for the three and nine months ended September 30, 2017, respectively.

As of September 30, 2017 and December 31, 2016, the Company had reserves for uncertain tax positions of $1,538 and $1,283, respectively. The Company incurred $25 and $47 in interest and penalties for the three and nine months ended September 30, 2017, respectively, which were recorded as a component of income tax expense. There were no material changes during the nine months ended September 30, 2017 to the Company's reserve for uncertain tax positions. The Company does not expect that its unrecognized tax benefits will materially change within the next twelve months.

The Company is subject to taxation in the U.S. and various state and foreign jurisdictions. The Company's tax years from 2013 through 2016 are subject to examination by these various tax authorities. With few exceptions, the Company is no longer subject to U.S. federal, state, local and foreign examinations by tax authorities for years before 2013.

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

Introduction

The statements included in this quarterly report on Form 10-Q, other than statements of historical fact, are forward-looking statements. Examples of forward-looking statements include statements regarding our future financial results, operating results, business strategies, projected costs, products and services, competitive positions and plans, customer preferences, consumer trends, anticipated product development, and objectives of management for future operations. In some cases, forward-looking statements can be identified by terminology such as "may," "will," "should," "would," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "continue," or the negative of these terms or other comparable terminology. Any expectations based on these forward-looking statements are subject to risks and uncertainties and other important factors, including those discussed in the section entitled "Risk Factors" in Item 1A of Part II of this quarterly report. These and many other factors could affect our future financial and operating results, and could cause actual results to differ materially from expectations based on forward-looking statements made in this document or elsewhere by us or on our behalf. For example, our expectations regarding certain items as a percentage of sales assume that we will achieve our anticipated sales goals. The following discussion and analysis should be read in conjunction with our consolidated financial statements and related notes appearing elsewhere in this report.

Overview

We design, develop, manufacture and market mobile connectivity products and services for the marine and land mobile markets, and navigation, guidance and stabilization products for both the defense and commercial markets. We operate in two operating segments based on product lines: mobile connectivity and inertial navigation.

Mobile Connectivity Segment

Our mobile connectivity segment offers satellite communications products and services. Our mobile connectivity products enable customers to receive voice and Internet services and live digital television via satellite services in marine vessels, recreational vehicles, buses and automobiles. Our CommBox offers a range of tools designed to increase communication efficiency, reduce costs, and manage network operations. We sell and lease our mobile connectivity products through an extensive international network of dealers and distributors. We also sell and lease products directly to end users. In the second quarter of 2017, we launched a new mini-VSAT Broadband service offering, AgilePlans, which is a monthly subscription model providing global connectivity to commercial maritime customers, including hardware, installation, broadband Internet, VOIP, entertainment and training content and global support for a monthly fee with no minimum commitment. We offer AgilePlans customers a variety of airtime data plans with varying data speeds and fixed data usage levels with overage charges per megabyte, which is similar to the plans that we offer to our other customers. We will recognize the monthly subscription fee as service revenue over the service delivery period. We retain ownership of the hardware that we provide to AgilePlans customers, who must return the hardware to us when they terminate our service. Because we do not sell the hardware under AgilePlans, we do not recognize any product revenue when hardware is deployed to an AgilePlans customer. To the extent that customers select the AgilePlans model, we expect product revenue to decline commensurately, as occurred in the third quarter of 2017. We record the cost of the hardware used by AgilePlans customers as revenue-generating assets and depreciate the cost over an estimated useful life of five years. To the extent that AgilePlans are successful, our capital expenditures and related depreciation expense could increase significantly. Because AgilePlans do not generate revenues from product sales at the beginning of the customer relationship, these increased capital expenditures will impair our overall liquidity, as we incur costs up front and only generate revenue over time. Further, without upfront capital costs and longer-term contractual commitments from customers, we may experience increased rates of terminations, as well as increased costs of recovering hardware, write-offs of equipment damaged in shipment or deemed unrecoverable, and higher bad debt expense. Since we are retaining ownership of the hardware, we will not accrue any warranty costs for AgilePlans hardware; however, any maintenance costs on the hardware will be expensed in the period these costs are incurred rather than charged against our warranty reserve, which may lead to increased period-to-period variability in costs of service sales and gross profit.

Our mobile connectivity service sales include sales of satellite voice and Internet airtime services, engineering services provided under development contracts, sales from product repairs, and extended warranty sales. Our mobile connectivity service sales also include our distribution of entertainment, including news, sports, music, and movies, to commercial and leisure customers in the maritime, hotel, and retail markets through KVH Media Group, as well as the distribution of training films and eLearning computer-based training courses to commercial customers in the maritime market through our Videotel business. We typically recognize revenue from media content sales ratably over the period of the service contract. We provide, for monthly fixed and usage fees, satellite connectivity services for broadband Internet, data and Voice over Internet Protocol (VoIP) service to our TracPhone V-series customers. We also earn monthly usage fees for third-party satellite connectivity for voice, data and Internet services to our Inmarsat and Iridium customers who choose to activate their subscriptions with us. Our service sales have grown as a percentage of total revenue from 59% of our net sales for both three and nine months ended September 30, 2016 to 65% and 64% for the three and nine months ended September 30, 2017, respectively. The majority of KVH Media Group's and Videotel’s services are invoiced in pounds sterling, which increases our exposure to fluctuations in exchange rates.

Our leisure marine business within the mobile connectivity segment is highly seasonal, and seasonality can also impact our commercial marine business. Historically, we have generated the majority of our leisure marine product revenues during the first and second quarters of each year, and these revenues typically decline in the third and fourth quarters of each year, compared to the first two quarters. Temporary suspensions of our airtime services typically increase in the third and fourth quarters of each year as boats are placed out of service during the winter months. In 2017, we believe these trends were exacerbated by the hurricanes in the Caribbean and the Gulf of Mexico.

Inertial Navigation Segment

Our inertial navigation segment offers precision fiber optic gyro (FOG)-based systems that enable platform and optical stabilization, navigation, pointing, and guidance. Our inertial navigation products also include tactical navigation systems that provide uninterrupted access to navigation and pointing information in a variety of military vehicles, including tactical trucks and light armored vehicles. Our inertial navigation products are sold directly to U.S. and foreign governments and government contractors, as well as through an international network of authorized independent sales representatives. In addition, our inertial navigation products are used in numerous commercial products, such as navigation and positioning systems for various applications including precision mapping, dynamic surveying, autonomous vehicles, train location control and track geometry measurement systems, industrial robotics and optical stabilization.

We generate sales primarily from the sale of our mobile connectivity systems and services and our inertial navigation products and services. The following table provides, for the periods indicated, our sales by segment:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
	(in thousands)		(in thousands)	
Mobile connectivity	$ 32,762	$ 36,453	$ 101,083	$ 108,608
Inertial navigation	7,688	9,393	20,027	23,584
Net sales	$ 40,450	$ 45,846	$ 121,110	$ 132,192

Product sales within the mobile connectivity segment accounted for 18% and 22% of our consolidated net sales for the three months ended September 30, 2017 and 2016, respectively and 21% and 25% of our consolidated net sales for the nine months ended September 30, 2017 and 2016, respectively. Sales of mini-VSAT Broadband airtime service accounted for 42% and 37% of our consolidated net sales for the three months ended September 30, 2017 and 2016, respectively and 41% and 36% of our consolidated net sales for the nine months ended September 30, 2017 and 2016, respectively. Sales of content and training service sales within the mobile connectivity segment accounted for 20% and 19% of our consolidated net sales for the three months ended September 30, 2017 and 2016, respectively, and 20% of our consolidated net sales for both the nine months ended September 30, 2017 and 2016, respectively.

Within our inertial navigation segment, net sales of FOG-based guidance and navigation systems accounted for 13% and 9% of our consolidated net sales for the three months ended September 30, 2017 and 2016, respectively, and 12% and 9% of our consolidated net sales for the nine months ended September 30, 2017 and 2016, respectively. TACNAV product sales accounted for 4% and 10% of our consolidated net sales for the three months ended September 30, 2017 and 2016, respectively, and 3% and 7% of our consolidated net sales for the nine months ended September 30, 2017 and 2016, respectively.

No other single product class accounts for 10% or more of our consolidated net sales for the three months ended September 30, 2017 and 2016 and the nine months ended September 30, 2017 and 2016. No individual customer accounted for 10% or more of our consolidated net sales for the three months ended September 30, 2017 and 2016 or the nine months ended September 30, 2017 and 2016.

We operate in a number of major geographic areas across the globe. We generate our international net sales, based upon customer location, primarily from customers located in Canada, Europe, Africa, Asia/Pacific, the Middle East, and India. Our international net sales totaled 60% and 62% of our consolidated net sales for the three months ended September 30, 2017 and 2016, respectively, and 61% and 63% of our consolidated net sales for the nine months ended September 30, 2017 and 2016, respectively. Sales to Canada represented 12% and 11% of our consolidated net sales for the three and nine months ended September 30, 2016. No other individual foreign country represented 10% or more of our consolidated net sales for the three and nine months ended September 30, 2016. No individual foreign country represented 10% or more of our consolidated net sales for the three and nine months ended September 30, 2017.

In addition to our internally funded research and development efforts, we also conduct research and development activities that are funded by our customers. These activities relate primarily to engineering studies, surveys, prototype development, program management, and standard product customization. In accordance with accounting principles generally accepted in the United States of America, we account for customer-funded research as service revenue, and we account for the associated research and development costs as costs of service and product sales. As a result, customer-funded research and development are not included in the research and development expense that we present in our statement of operations. The following table presents our total annual research and development effort, representing the sum of research costs of service and product sales and the operating expense of research and development as described in our statement of operations. Our management believes this information is useful because it provides a better understanding of our total expenditures on research and development activities.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	**2016**	**2017**	**2016**
	(in thousands)		**(in thousands)**	
Research and development expense presented on the statement of operations	$ 3,990	$ 3,940	$ 11,698	$ 11,760
Costs of customer-funded research and development included in costs of service sales	373	135	1,412	405
Total consolidated statements of operations expenditures on research and development activities	$ 4,363	$ 4,075	$ 13,110	$ 12,165

Critical Accounting Policies and Significant Estimates

The discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets and liabilities, sales and expenses, and related disclosure at the date of our financial statements. Our significant accounting policies are summarized in Note 1 to the consolidated financial statements in our annual report on Form 10-K for the year ended December 31, 2016.

As described in our annual report on Form 10-K for the year ended December 31, 2016, our most critical accounting policies and estimates upon which our consolidated financial statements were prepared were those relating to revenue recognition, valuation of accounts receivable, valuation of inventory, valuations and purchase price allocations related to business combinations, expected future cash flows including growth rates, discount rates, terminal values and other assumptions and estimates used to evaluate the recoverability of long-lived assets and goodwill, estimated fair values of long-lived assets, including goodwill, amortization methods and periods, certain accrued expenses and other related charges, stock-based compensation, contingent liabilities, key valuation assumptions for its share-based awards, estimated fulfillment costs for warranty obligations, tax reserves and recoverability of our net deferred tax assets and related valuation allowance. We have reviewed our policies and estimates and determined that these remain our most critical accounting policies and estimates for the nine months ended September 30, 2017.

Readers should refer to our annual report on Form 10-K for the year ended December 31, 2016 under “Management’s Discussion and Analysis of Financial Condition and Results of Operation—Critical Accounting Policies and Significant Estimates” for descriptions of these policies and estimates, as well as the notes to the consolidated financial statements included elsewhere within this report.

Results of Operations

The following table provides, for the periods indicated, certain financial data expressed as a percentage of net sales:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	**2016**	**2017**	**2016**
Sales:				
Product	35.0 %	41.5 %	35.8 %	41.2 %
Service	65.0	58.5	64.2	58.8
Net sales	100.0	100.0	100.0	100.0
Cost and expenses:				
Costs of product sales	23.7	24.0	24.3	26.2
Costs of service sales	33.1	29.6	32.8	30.1
Research and development	9.9	8.6	9.7	8.9
Sales, marketing and support	20.4	17.4	20.7	19.6
General and administrative	17.4	13.8	18.8	16.0
Total costs and expenses	104.5	93.4	106.3	100.8
(Loss) income from operations	(4.5)	6.6	(6.3)	(0.8)
Interest income	0.4	0.3	0.4	0.3
Interest expense	0.9	0.8	0.9	0.8
Other (expense) income, net	(0.3)	(0.1)	(0.3)	—
(Loss) income before income tax expense (benefit)	(5.3)	6.0	(7.1)	(1.3)
Income tax expense (benefit)	0.7	(0.3)	0.6	(0.8)
Net (loss) income	(6.0)%	6.3 %	(7.7)%	(0.5)%

Three months ended September 30, 2017 and 2016

Net Sales

As discussed further under the heading "Segment Discussion" below, product sales decreased $4.9 million, or 26%, to $14.1 million for the three months ended September 30, 2017 from $19.0 million for the three months ended September 30, 2016, due to a decrease in mobile connectivity product sales of $2.9 million, or 29%, and a decrease in inertial navigation product sales of $2.0 million, or 22%. Service sales for the three months ended September 30, 2017 decreased $0.5 million, or 2%, to $26.3 million from $26.8 million for the three months ended September 30, 2016, due to a decrease in mobile connectivity service sales of $0.8 million, offset by a $0.3 million increase in inertial navigation service sales.

Costs of Sales

Costs of sales consists of costs of product sales and costs of service sales. Costs of sales decreased by $1.7 million, or 7%, in the three months ended September 30, 2017 to $22.9 million from $24.6 million in the three months ended September 30, 2016. The decrease in costs of sales was driven by a $1.4 million decrease in costs of product sales and a $0.3 million decrease in costs of service sales. As a percentage of net sales, costs of sales was 57% for the three months ended September 30, 2017 and 54% for the three months ended September 30, 2016.

Our costs of product sales consist primarily of materials, manufacturing overhead, and direct labor used to produce our products. For the three months ended September 30, 2017, costs of product sales decreased by $1.4 million, or 13%, to $9.6 million from $11.0 million in the three months ended September 30, 2016. As a percentage of product sales, costs of product sales were 68% and 58% for the three months ended September 30, 2017 and 2016, respectively. Mobile connectivity costs of product sales decreased by $1.5 million, or 22%, and mobile connectivity costs of product sales as a percentage of mobile connectivity product sales were 75% and 68% for the three months ended September 30, 2017 and 2016, respectively. The decrease was principally driven by product mix. Inertial navigation costs of product sales increased by $0.1 million, or 2%, primarily due to a $0.7 million decrease in our TACNAV costs of product sales, offset by a $0.8 million increase in our FOG costs of product sales. As a percentage of inertial navigation product sales, cost of inertial navigation product sales were 61% and 46% for the three months ended September 30, 2017 and 2016, respectively.

Our costs of service sales consist primarily of satellite service capacity, depreciation, service network overhead expense associated with our mini-VSAT Broadband network infrastructure, direct network service labor, Inmarsat service costs, product installation costs, engineering and related direct costs associated with customer-funded research and development, media materials and distribution costs, and service repair materials. For the three months ended September 30, 2017, costs of service sales decreased by $0.3 million, or 2%, to $13.3 million from $13.6 million for the three months ended September 30, 2016. As a percentage of service sales, costs of service sales were 51% for both the three months ended September 30, 2017 and 2016. Mobile connectivity costs of service sales decreased by $0.5 million, or 4%, primarily due to a $0.5 million decrease in content and learning costs of service sales, partially offset by a $0.2 million increase in airtime costs of service sales. As a percentage of mobile connectivity service sales, cost of mobile connectivity service sales were 51% for both the three months ended September 30, 2017 and 2016. Inertial navigation costs of service sales increased by $0.2 million, or 200%, due to an increase in contract engineering service revenues. As a percentage of inertial navigation service sales, costs of inertial navigation service sales were 43% and 25% for the three months ended September 30, 2017 and 2016, respectively, due to the mix of services delivered.

We expect the cost of sales in our mobile connectivity segment to decrease in the short term in correlation with our expected growth in AgilePlans sales where product hardware costs related to our owned hardware that is utilized to provide service will be depreciated over the useful life of the revenue-generating asset. We expect the cost of sales in our inertial navigation segment to increase along with expected growth in overall inertial navigation sales. We expect that the mobile connectivity costs of service sales as percentage of mobile connectivity sales will decrease slightly as we are seeking to implement additional airtime cost-saving initiatives.

Operating Expenses

Research and development expense consists of direct labor, materials, external consultants, and related overhead costs that support our internally funded product development and product sustaining engineering activities. Research and development expense for the three months ended September 30, 2017 increased by $0.1 million, or 3% to $4.0 million from $3.9 million for the three months ended September 30, 2016. The primary reasons for the increase in research and development expense was a $0.4 million increase in salaries and employee benefits partially offset by $0.3 million decrease in unfunded engineering expenses. As a percentage of net sales, research and development expense for the three months ended September 30, 2017 and 2016 was 10% and 9%, respectively.

We expect that research and development expense will grow year-over-year as we continue to invest in developing new technologies and applications for our products.

Sales, marketing, and support expense consists primarily of salaries and related expenses for sales and marketing personnel, commissions for both in-house and third-party representatives, costs related to the co-development of certain content, other sales and marketing support costs such as advertising, literature and promotional materials, product service personnel and support costs, warranty-related costs and bad debt expense. Sales, marketing and support expense also includes the operating expenses of our sales office subsidiaries in Denmark, Singapore, Brazil, and Japan. Sales, marketing and support expense for the three months ended September 30, 2017 increased by $0.2 million, or 3% to $8.2 million from $8.0 million for the three months ended September 30, 2016. The primary reasons for the increase in sales, marketing, and support expense were a $0.2 million increase in salaries and employee benefits and consulting fees. As a percentage of net sales, sales, marketing and support expense was 20% and 17% for the three months ended September 30, 2017 and 2016, respectively.

We expect that our sales, marketing, and support expense will increase year-over-year primarily driven by increased personnel, marketing and technology investments to support product sales and launches.

General and administrative expense consists of costs attributable to management, finance and accounting, information technology, human resources, certain outside professional services, and other administrative costs. General and administrative expense for the three months ended September 30, 2017 increased by $0.8 million, or 13%, to $7.1 million from $6.3 million for the three months ended September 30, 2016. The increase in general and administrative expense primarily resulted from an increase in salaries and associated compensation due to an increase in headcount, partially offset by a decrease in consulting fees. As a percentage of net sales, general and administrative expense for the three months ended September 30, 2017 was 17% as compared to 14% for the three months ended September 30, 2016.

We expect general and administrative expenses to increase year-over-year in 2017, primarily driven by increased personnel costs.

Interest and Other Expense, Net

Interest income represents interest earned on our cash and cash equivalents, as well as from investments. Interest income increased slightly to $0.2 million for the three months ended September 30, 2017 from $0.1 million for the three months ended September 30, 2016. Interest expense remained flat at $0.4 million for the three months ended September 30, 2017 and 2016. Other expense, net remained flat at $0.1 million for the three months ended September 30, 2017 and 2016.

Income Tax Expense (Benefit)

Income tax expense for the three months ended September 30, 2017 was $0.3 million due to taxes related to income earned in foreign jurisdictions and no associated income tax benefit related to the loss incurred in the U.S. due to a full valuation allowance on our U.S. deferred tax assets. Income tax benefit of $0.1 million for the three months ended September 30, 2016 was based on the estimated effective tax rate for fiscal 2016, the related composition of the pre-tax income for the period and the impact of discrete items recorded in the quarter.

Segment Discussion - Three months ended September 30, 2017 and 2016

Our net sales by segment for the three months ended September 30, 2017 and 2016 were as follows:

	For the Three Months Ended September 30,		Change 2017 vs. 2016	
	2017	2016	$	%
	(thousands)			
Mobile connectivity sales:				
Product	$ 7,209	$ 10,093	$ (2,884)	(29)%
Service	25,553	26,360	(807)	(3)%
Net sales	$ 32,762	$ 36,453	$ (3,691)	(10)%
Inertial navigation sales:				
Product	$ 6,960	$ 8,927	$ (1,967)	(22)%
Service	728	466	262	56 %
Net sales	$ 7,688	$ 9,393	$ (1,705)	(18)%

Operating (loss) earnings by segment for the three months ended September 30, 2017 and 2016 were as follows:

	For the Three Months Ended September 30,		Change 2017 vs. 2016	
	2017	2016	$	%
	(thousands)			
Mobile connectivity	$ 2,067	$ 4,556	$ (2,489)	(55)%
Inertial navigation	349	2,126	(1,777)	(84)%
	$ 2,416	$ 6,682	$ (4,266)	(64)%
Unallocated	(4,217)	(3,669)	(548)	(15)%
(Loss) earnings from operations	$ (1,801)	$ 3,013	$ (4,814)	(160)%

Mobile Connectivity Segment

Net sales in the mobile connectivity segment decreased $3.7 million, or 10%, for the three months ended September 30, 2017 as compared to the three months ended September 30, 2016. Mobile connectivity product sales decreased by $2.9 million, or 29%, to $7.2 million for the three months ended September 30, 2017 from $10.1 million for the three months ended September 30, 2016. The decrease was primarily due to a $2.3 million decrease in marine product sales and a $0.6 million decrease in land product sales. The decrease was partly due to the receipt of two large lease orders in 2016, as well as the impact of the new AgilePlans subscription service. The hurricanes in the Caribbean and the Gulf of Mexico in the 2017 third quarter, also impacted our marine and land product sales.

Mobile connectivity service sales decreased by $0.8 million, or 3% , to $25.6 million for the three months ended September 30, 2017 from $26.4 million for the three months ended September 30, 2016. The decrease was primarily due to a $0.9 million decrease in our content and training service revenue, which resulted primarily from a decrease in fleet subscribers and a large film contract that occurred in the third quarter of 2016, a $0.1 million decrease in Inmarsat service sales due to a decrease in Inmarsat airtime customers, and a $0.1 million decrease in activations and other service sales due to a decrease in TracVision product sales. Offsetting this decrease was a $0.3 million increase in mini-VSAT service sales due to an increase in the number of installed mini-VSAT units and service offerings such as our AgilePlans.

We expect that our mini-VSAT service sales will grow moderately year-over-year, primarily through the continued expansion of our mini-VSAT Broadband customer base, and due to a new product offering, our subscription service model "AgilePlans", which allows customers the option to receive mini-VSAT Broadband airtime and hardware for a single monthly charge. We expect mini-VSAT product sales to decline to the extent that customers select the new subscription service model as an alternative to purchasing mini-VSAT hardware.

Operating earnings for the mobile connectivity segment decreased $2.6 million or 55%, for the three months ended September 30, 2017 as compared to the three months ended September 30, 2016. This decrease resulted primarily from a decrease in mobile connectivity product sales, a decrease in content and training service sales, and an increase in salaries and benefits, partially offset by an increase in mini-VSAT Airtime sales.

We anticipate that we will improve our service margins to the extent that customers adopt our mini-VSAT Broadband rate plans that provide customers with faster speeds with data caps. Additionally, we intend to seek to improve margins by lowering costs through increased network volume and lower-cost network capacity.

Inertial Navigation Segment

Net sales in the inertial navigation segment decreased $1.7 million, or 18%, for the three months ended September 30, 2017 as compared to the three months ended September 30, 2016. Inertial navigation product sales decreased $2.0 million, or 22%, to $6.9 million for the three months ended September 30, 2017 from $8.9 million for the three months ended September 30, 2016. Specifically, TACNAV sales decreased $3.0 million, due to a large order that occurred in the third quarter of 2016. This decrease was partially offset by a $1.0 million increase in FOG product sales.

Inertial navigation service sales increased $0.3 million or 75%, to $0.7 million for the three months ended September 30, 2017 from $0.4 million for the three months ended September 30, 2016. The primary reason for the increase was a $0.4 million increase in contracted engineering services due to a new project that began in January 2017 and was completed in the third quarter of 2017. This increase was partially offset by a $0.1 million decrease in inertial navigation repair revenue.

We expect that TACNAV product sales will decline in 2017 compared with 2016 as the large international orders we are anticipating have not been received. However, it is challenging to forecast the specific timing that these or any TACNAV orders will be received and delivered to the customer, and it remains possible that the orders will be received and shipped in our fourth quarter, although we cannot be certain that the orders will be received at all. We expect to see good growth in our FOG product sales in 2017 as these products are incorporated into additional commercial applications. We also expect to see growth in contracted engineering service sales year over year.

Our operating earnings for the inertial navigation segment decreased $1.7 million, or 84%, for the three months ended September 30, 2017 as compared to the three months ended September 30, 2016. This decrease is primarily due to a decrease in product sales, partially offset by a $0.2 million decrease in unfunded engineering costs and a $0.1 million decrease in commissions.

Unallocated

Certain corporate-level costs have not been allocated because they are not directly attributable to either segment. These costs primarily consist of broad corporate functions, including executive, legal, finance, information technology, and costs associated with corporate actions.

Unallocated operating loss increased $0.5 million, or 15%, for the three months ended September 30, 2017 as compared to the three months ended September 30, 2016. The increase in the operating loss was primarily the result of an increase in salaries and associated compensation due to an increase in headcount.

Nine months ended September 30, 2017 and 2016

Net Sales

As discussed further under the heading "Segment Discussion" below, product sales decreased $11.2 million, or 21%, to $43.3 million for the nine months ended September 30, 2017 from $54.5 million for the nine months ended September 30, 2016, primarily due to a decrease in mobile connectivity product sales of $6.6 million and a decrease in inertial navigation product sales of $4.6 million. Service sales increased $0.1 million, or less than 1%, to $77.8 million for the nine months ended September 30, 2017 from $77.7 million for the nine months ended September 30, 2016, primarily due to an increase in inertial navigation service sales of $1.1 million, which was partially offset by a decrease in mobile connectivity service sales of $1.0 million.

Costs of Sales

Costs of sales decreased by $5.4 million, or 7%, in the nine months ended September 30, 2017 to $69.1 million from $74.5 million in the nine months ended September 30, 2016. The decrease in costs of sales was driven by a $5.3 million decrease in costs of product sales and a $0.1 million decrease in costs of service sales. As a percentage of net sales, costs of sales was 57% and 56% for the nine months ended September 30, 2017 and 2016, respectively.

For the nine months ended September 30, 2017, costs of product sales decreased by $5.3 million, or 15%, to $29.4 million from $34.7 million in the nine months ended September 30, 2016. As a percentage of product sales, costs of product sales were 68% and 64% for the nine months ended September 30, 2017 and 2016, respectively. Mobile connectivity costs of product sales decreased by $4.5 million, or 19%, due to a decrease in our mobile connectivity product sales. Mobile connectivity costs of product sales as a percentage of mobile connectivity product sales were 73% and 72% for the nine months ended September 30, 2017 and 2016, respectively. Inertial navigation costs of product sales decreased by $0.8 million, or 7%, primarily due to a $1.7 million decrease in our TACNAV costs of product sales partially offset by a $0.9 million increase in our FOG costs of product sales. Inertial navigation costs of product sales as a percentage of inertial navigation product sales were 60% and 51% for the nine months ended September 30, 2017 and 2016, respectively.

For the nine months ended September 30, 2017, costs of service sales decreased by $0.1 million, or less than 1%, to $39.7 million from $39.8 million for the nine months ended September 30, 2016. As a percentage of service sales, costs of service sales were 51% for both the nine months ended September 30, 2017 and 2016. Mobile connectivity costs of service sales decreased by $1.1 million, or 3%, primarily due to a $1.9 million decrease in content and learning costs of service sales, and a $0.3 million decrease in activations and other service sales, partially offset by a $1.1 million increase in airtime costs of service sales. Mobile connectivity costs of service sales as a percentage of mobile connectivity service sales were 51% and 52% for the nine months ended September 30, 2017 and 2016, respectively. Inertial navigation costs of service sales increased by $1.0 million, or 250%, due to an increase in contract engineering services revenues. Inertial navigation costs of service sales as a percentage of inertial navigation service sales were 54% and 27% for the nine months ended September 30, 2017 and 2016, respectively, due to the mix of services delivered.

Operating Expenses

Research and development expense for the nine months ended September 30, 2017 decreased by $0.1 million, or 1% to $11.7 million from $11.8 million for the nine months ended September 30, 2016. The primary reason for the decrease in research and development expense was a $1.0 million decrease in unfunded engineering expenses, partially offset by a $0.9 million increase in salaries and employee benefits. As a percentage of net sales, research and development expense for the nine months ended September 30, 2017 and 2016 was 10% and 9%, respectively.

Sales, marketing and support expense for the nine months ended September 30, 2017 decreased by $0.8 million, or 3%, to $25.1 million from $25.9 million for the nine months ended September 30, 2016. The decrease in sales, marketing and support expense primarily resulted from a $0.6 million decrease in warranty expense, and a $0.3 million decrease in external commissions, partially offset by a $0.1 million increase in salaries, employee benefits, and outside consulting. As a percentage of net sales, sales, marketing and support expense was 21% and 20% for the nine months ended September 30, 2017 and 2016, respectively.

General and administrative expense for the nine months ended September 30, 2017 increased by $1.7 million, or 8%, to $22.8 million from $21.1 million for the nine months ended September 30, 2016. The increase in general and administrative expense primarily resulted from an increase in salaries and associated compensation due to an increase in headcount. As a percentage of net sales, general and administrative expense for the nine months ended September 30, 2017 was 19% as compared to 16% for the nine months ended September 30, 2016.

Interest and Other Expense, Net

Interest income increased slightly to $0.5 million for the nine months ended September 30, 2017 from $0.4 million for the nine months ended September 30, 2016. Interest expense remained flat at $1.1 million for the nine months ended September 30, 2017 and 2016. Other (expense) income, net increased to an expense of $0.3 million from other income of a negligible amount, for the nine months ended September 30, 2017 and 2016, respectively, primarily due to an increase in foreign exchange losses from our UK operations.

Income Tax Expense (Benefit)

Income tax expense for the nine months ended September 30, 2017 was $0.8 million due to taxes related to income earned in foreign jurisdictions and no associated income tax benefit related to the loss incurred in the U.S. due to a full valuation allowance on our U.S. deferred tax assets. Income tax benefit of $1.0 million for the nine months ended September 30, 2016 was based on the estimated effective tax rate for fiscal 2016 and the impact of discrete items recorded in the quarter.

Segment Discussion - Nine months ended September 30, 2017 and 2016

Our net sales by segment for the nine months ended September 30, 2017 and 2016 were as follows:

	For the Nine Months Ended September 30,		Change 2017 vs. 2016	
	2017	2016	$	%
	(thousands)			
Mobile connectivity sales:				
Product	$ 25,938	$ 32,458	$ (6,520)	(20)%
Service	75,145	76,150	(1,005)	(1)%
Net sales	$ 101,083	$ 108,608	$ (7,525)	(7)%
Inertial navigation sales:				
Product	$ 17,417	$ 22,006	$ (4,589)	(21)%
Service	2,610	1,578	1,032	65 %
Net sales	$ 20,027	$ 23,584	$ (3,557)	(15)%

Operating earnings (loss) by segment for the nine months ended September 30, 2017 and 2016 were as follows:

	For the Nine Months Ended September 30,		Change 2017 vs. 2016	
	2017	2016	$	%
	(thousands)			
Mobile connectivity	$ 5,327	$ 8,177	$ (2,850)	(35)%
Inertial navigation	667	2,795	(2,128)	(76)%
	$ 5,994	$ 10,972	$ (4,978)	(45)%
Unallocated	(13,633)	(12,026)	(1,607)	(13)%
Loss from operations	$ (7,639)	$ (1,054)	$ (6,585)	(625)%

Mobile Connectivity Segment

Net sales in the mobile connectivity segment decreased $7.6 million, or 7%, for the nine months ended September 30, 2017 as compared to the nine months ended September 30, 2016. Mobile connectivity product sales decreased by $6.6 million, or 20%, to $25.9 million for the nine months ended September 30, 2017 from $32.5 million for the nine months ended September 30, 2016. The decrease was primarily due to a $5.8 million, or 20%, decrease in marine product sales and a $0.8 million, or 25%, decrease in sales of our land mobile connectivity products. The decrease was partly due to the receipt of a particularly large order in 2016, as well as the impact of the new AgilePlans subscription service. The hurricanes in the Caribbean and the Gulf of Mexico in the 2017 third quarter and inclement weather in the 2017 second quarter, particularly in the US East Coast region, also impacted our marine business as boat owners delayed the seasonal retrofitting of their vessels.

Mobile connectivity service sales decreased by $1.0 million, or 1%, to $75.2 million for the nine months ended September 30, 2017 from $76.2 million for the nine months ended September 30, 2016. The decrease was primarily due to a $2.8 million decrease in our content and training service revenue, which resulted primarily from exchange rate weakness arising from content and training service sales recorded in pounds sterling, a decrease in fleet subscribers and a large film contract that occurred in the third quarter of 2016, a $0.4 million decrease in Inmarsat service sales due to a decrease in Inmarsat airtime customers, and a $0.2 million decrease in activations and other service sales. Partially offsetting these decreases was a $2.4 million increase in mini-VSAT service sales driven by an increase in the number of installed mini-VSAT units and service offerings.

Operating earnings for the mobile connectivity segment decreased $2.9 million, or 35%, for the nine months ended September 30, 2017 as compared to the nine months ended September 30, 2016. This decrease was primarily the result of a decrease in product sales and associates costs, and a $2.6 million increase in employee salaries and benefits, partially offset by a $0.5 million decrease in external commissions and royalties due to lower sales and a $0.7 million decrease in warranty expense.

Inertial Navigation Segment

Net sales in the inertial navigation segment decreased $3.5 million, or 15%, for the nine months ended September 30, 2017 as compared to the nine months ended September 30, 2016. Inertial navigation product sales decreased $4.6 million, or 21%, to $17.4 million for the nine months ended September 30, 2017 from $22.0 million for the nine months ended September 30, 2016. Specifically, TACNAV sales decreased $6.5 million, primarily due to a large orders that shipped in the second and third quarters of 2016. This decrease was partially offset by a $1.9 million increase in FOG product sales.

Inertial navigation service sales increased $1.1 million, or 65%, to $2.6 million for the nine months ended September 30, 2017 from $1.5 million for the nine months ended September 30, 2016. The primary reason for the increase was a $1.5 million increase in contracted engineering services due to a new project that began in January 2017 and was completed in the third quarter of 2017. This increase was partially offset by a $0.4 million decrease in inertial navigation repair revenue.

Our operating earnings for the inertial navigation segment decreased $2.1 million, or 76%, for the nine months ended September 30, 2017 as compared to the nine months ended September 30, 2016. This decrease is primarily due to a decrease in product sales and associated costs, partially offset by a $0.6 million decrease in employee salaries and benefits and a $0.6 million decrease in unfunded engineering costs.

Unallocated

Unallocated operating loss increased $1.5 million, or 13%, for the nine months ended September 30, 2017 as compared to the nine months ended September 30, 2016. The increase in the operating loss was primarily the result of an increase in salaries and associated compensation due to an increase in headcount.

Backlog

Backlog is not a meaningful indicator for predicting revenue in future periods. Commercial resellers for our mobile connectivity products and FOG products do not carry extensive inventories and rely on us to ship products quickly. Generally due to the rapid delivery of our commercial products, our backlog for those products is not significant.

Our backlog for all products and services was $9.1 million and $8.9 million as of September 30, 2017 and December 31, 2016, respectively. As of September 30, 2017, $4.2 million of our backlog was scheduled for fulfillment in 2017, $4.0 million was scheduled for fulfillment in 2018, and $0.9 million was scheduled for fulfillment in 2019 through 2025.

Backlog consists of orders evidenced by written agreements and specified delivery dates for customers who are acceptable credit risks. We do not include satellite connectivity service sales in our backlog even though many of our satellite connectivity customers have signed annual or multi-year service contracts providing for a fixed monthly fee. Military orders included in backlog are generally subject to cancellation for the convenience of the customer. When orders are canceled, we generally recover actual costs incurred through the date of cancellation and the costs resulting from termination. As of September 30, 2017, our backlog included $2.4 million in orders that are subject to cancellation for convenience by the customer. Individual orders for guidance and stabilization products are often large and may require procurement of specialized long-lead components and allocation of manufacturing resources. The complexity of planning and executing larger orders generally requires customers to order well in advance of the required delivery date, resulting in backlog.

Liquidity and Capital Resources

Our primary liquidity needs are to fund general business requirements, including working capital requirements, capital expenditures, interest payments, and debt repayments. In recent years, we have funded our operations primarily from cash flows from operations, bank financing, and the proceeds received from exercises of stock options.

As of September 30, 2017, we had $43.7 million in cash, cash equivalents, and marketable securities, of which $19.1 million in cash and cash equivalents was held in local currencies by our foreign subsidiaries. Our foreign subsidiaries held no marketable securities as of September 30, 2017. As of September 30, 2017, we had $56.1 million in working capital.

Net cash provided by operations was $9.4 million for the nine months ended September 30, 2017 compared to net cash provided by operations of $19.0 million for the nine months ended September 30, 2016. The $9.6 million decrease in cash provided by operations was primarily due to a $8.8 million decrease in cash inflows relating to accounts receivable principally due to lower sales in the second quarter of 2017 as compared to the second quarter of 2016 that were paid in the third quarter of 2017 and the third quarter of 2016, respectively, a $8.6 million increase in net loss, a $1.3 million increase in cash outflows in inventories, a $1.8 million decrease in non-cash items and a $1.7 million decrease in cash inflows related to deferred revenue. Partially offsetting these items were a $4.5 million decrease in cash outflows relating to accrued other expenses, a $4.1 million decrease in cash outflows relating to accounts payable and a $2.7 million decrease in cash outflows related to prepaid expenses and a $1.5 million decrease in cash outflows related to other assets.

Net cash provided by investing activities was $7.1 million for the nine months ended September 30, 2017 compared to net cash used in investing activities of $10.9 million for the nine months ended September 30, 2016. The $18.0 million increase was principally the result of a $23.5 million decrease in net investments in available-for-sale marketable securities, which was partially offset by a $5.4 million increase in capital expenditures.

Net cash used in financing activities was $9.4 million for the nine months ended September 30, 2017 compared to net cash used in financing activities of $4.6 million for the nine months ended September 30, 2016. The $4.8 million increase in net cash used in financing activities is primarily attributable to a $5.1 million increase in repayments of our term loan in 2017 that we undertook in connection with the acquisition of Videotel in July 2014, a $0.6 million increase in repayments of long-term debt under our credit agreement and a $0.1 million increase in payments of employee restricted stock withholdings. These amounts were partially offset by a $0.9 million increase in proceeds from the exercise of stock options and the purchase of shares under our employee stock purchase plan.

Borrowing Arrangements

Principal Credit Facility

As of September 30, 2017, there was $44.9 million in aggregate principal amount outstanding under our principal credit facility. On July 1, 2014, we entered into a five-year senior secured credit facility with Bank of America, N.A., as administrative agent, and certain lenders for up to $80.0 million, including a term loan of $65.0 million and a revolving credit facility of up to $15.0 million. In March 2017, we amended the credit agreement to modify the Maximum Consolidated Leverage Ratio, the Applicable Rate, the Consolidated Fixed Charge Coverage Ratio (each as defined in the credit agreement) and the amortization schedule of the term loan, as well as to make certain other changes.

In connection with the March 2017 amendment, we made an additional principal repayment of $6.0 million on the term loan and amended the repayment terms. Under the amended terms, we must make principal repayments of $575,000 every three months starting on April 1, 2017 until the loan matures on July 1, 2019. On the maturity date, the entire remaining principal balance of the loan, including any future loans under the revolver, is due and payable, together with all accrued and unpaid interest, penalties, and any other amounts due and payable under the credit agreement. The credit agreement contains provisions requiring the mandatory prepayment of amounts outstanding under the term loan and the revolver under specified circumstances, including (i) 100% of the net cash proceeds from certain dispositions to the extent not reinvested in our business within a stated period, (ii) 50% of the net cash proceeds from stated equity issuances and (iii) 100% of the net cash proceeds from certain receipts of more than $250,000 outside the ordinary course of business. The prepayments are first applied to the term loan, in inverse order of maturity, and then to the revolver. In the discretion of the administrative agent, certain mandatory prepayments made on the revolver can permanently reduce the amount of credit available under the revolver.

Loans under the credit agreement bear interest at varying rates determined in accordance with the credit agreement. Each LIBOR Rate Loan, as defined in the credit agreement, bears interest on the outstanding principal amount thereof for each interest period from the applicable borrowing date at a rate per annum equal to the LIBOR Daily Floating Rate or LIBOR Monthly Floating Rate, each as defined in the credit agreement, as applicable, plus the Applicable Rate, as defined in the credit agreement, and each Base Rate Loan, as defined in the credit agreement, bears interest on the outstanding principal amount thereof from the applicable borrowing date at a rate per annum equal to the Base Rate, as defined in the credit agreement, plus the Applicable Rate. The Applicable Rate ranges from 1.75% to 2.25%, depending on our Consolidated Leverage Ratio, as defined in the credit agreement. The highest Applicable Rate applies when the Consolidated Leverage Ratio exceeds 1.50:1.00. Upon certain defaults, including failure to make payments when due, interest becomes payable at a higher default rate.

Borrowings under the revolver are subject to the satisfaction of numerous conditions precedent at the time of each borrowing, including the continued accuracy of our representations and warranties and the absence of any default under the credit agreement. As of September 30, 2017, there were no borrowings outstanding under the revolver, and the full balance of $15.0 million was available for borrowing.

The credit agreement contains two financial covenants, a Maximum Consolidated Leverage Ratio and a Minimum Consolidated Fixed Charge Coverage Ratio, each as defined in the credit agreement. The Maximum Consolidated Leverage Ratio may not be greater than 1.50:1.00. The Minimum Consolidated Fixed Charge Coverage Ratio may not be less than 1.25:1.00. In the March 2017 amendment, the definition of the Consolidated Fixed Charge Coverage Ratio was amended to include only maintenance capital expenditures, as defined. We were in compliance with these financial ratio debt covenants as of September 30, 2017.

The credit agreement imposes certain other affirmative and negative covenants, including without limitation covenants with respect to the payment of taxes and other obligations, compliance with laws, entry into material contracts, creation of liens, incurrence of indebtedness, investments, dispositions, fundamental changes, restricted payments, changes in the nature of our business, transactions with affiliates, corporate and accounting changes, and sale and leaseback arrangements.

Our obligation to repay loans under the credit agreement could be accelerated upon a default or event of default under the terms of the credit agreement, including certain failures to pay principal or interest when due, certain breaches of representations and warranties, the failure to comply with our affirmative and negative covenants under the credit agreement, a change of control, certain defaults in payment relating to other indebtedness, the acceleration of payment of certain other indebtedness, certain events relating to our liquidation, dissolution, bankruptcy, insolvency or receivership, the entry of certain judgments against us, certain events relating to the impairment of collateral or the lenders’ security interest therein, and any other material adverse change with respect to us.

Mortgage Loan

We have a $4.0 million mortgage loan related to our headquarters facility in Middletown, Rhode Island. The loan term is ten years, with a principal amortization of 20 years. The interest rate is based on the BBA LIBOR Rate (as defined in the loan agreement) plus 2.00 percentage points. The mortgage loan is secured by the underlying property and improvements. The monthly mortgage payment is approximately $14,000, plus interest, and increases in increments of approximately $1,000 each year over the life of the mortgage. Due to the difference in the term of the loan and amortization of the principal, a balloon payment of $2.6 million is due in April 2019. The loan contains one financial covenant, a Fixed Charge Coverage Ratio, which applies in the event that our consolidated cash, cash equivalents, and marketable securities balance falls below $25.0 million at any time. As our consolidated cash, cash equivalents, and marketable securities balance was above the minimum threshold throughout the nine months ended September 30, 2017, the Fixed Charge Coverage Ratio did not apply.

Under the mortgage loan, we may prepay our outstanding loan balance subject to certain early termination charges as defined in the mortgage loan agreement. If we were to default on the mortgage loan, the underlying property and improvements would be used as collateral. In 2010, we entered into two interest rate swap agreements that are intended to hedge our mortgage interest obligations by fixing the interest rates specified in the mortgage loan to 5.91% for half of the principal amount outstanding and 6.07% for the remaining half of the principal amount outstanding as of April 1, 2010 over the term of the mortgage loan.

Other Matters

We intend to continue to invest in the mini-VSAT Broadband network on a global basis. As part of the future potential capacity expansion, we would plan to seek to acquire additional satellite capacity from satellite operators, expend funds to seek regulatory approvals and permits, develop product enhancements in anticipation of the expansion, and hire additional personnel. For example, in December 2011, we entered into a five-year agreement to lease satellite capacity from a satellite operator, effective February 1, 2012, and in 2012 we also purchased three satellite hubs to support this added capacity. The total cost of the five-year satellite capacity agreement, the satellite hubs, and teleport services was $12.2 million, including $2.7 million for the hubs. In January 2013, we borrowed $4.7 million from a bank and pledged as collateral six satellite hubs and related equipment, including the three hubs purchased in 2012. The term of the equipment loan was five years, and the loan bore interest at a fixed rate of 2.76% per annum. In March 2017, we repaid in full the current balance of the loan in advance of the January 30, 2018 original maturity date. In December 2013, we borrowed $1.2 million from a bank and pledged as collateral one satellite hub and related equipment. The term of the equipment loan was five years, and the loan bore interest at a fixed rate of 3.08% per annum. In March 2017, we repaid in full the current balance of the loan in advance of the December 30, 2018 original maturity date.

On November 26, 2008, our Board of Directors authorized a program to repurchase up to one million shares of our common stock. The share repurchase program is funded using our existing cash, cash equivalents, marketable securities and future cash flows. As of September 30, 2017, 341,000 shares of our common stock remain available for repurchase under the program. We did not purchase any shares of our common stock in the nine months ended September 30, 2017.

As of September 30, 2017, we held $43.7 million in cash, cash equivalents and marketable securities. We believe that our cash, cash equivalents and marketable securities, together with our other working capital and cash flows from operations, will be adequate to meet planned operating and capital requirements through at least the next twelve months. However, as the need or opportunity arises, we may seek to raise additional capital through public or private sales of securities or through additional debt financing. There are no assurances that we will be able to obtain any additional funding or that such funding will be available on terms acceptable to us.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our primary market risk exposures are interest rate risk and foreign currency exchange rate risk.

We are exposed to changes in interest rates because we finance certain operations through fixed and variable rate debt instruments.

We had $44.9 million in borrowings outstanding at September 30, 2017, at an interest rate equal to the LIBOR Daily Floating Rate plus 1.75% under our variable-rate credit facility. For more information regarding our credit facility, see Item 2. *Management's Discussion and Analysis of Financial Condition and Results of Operations - Borrowing Arrangements.* A hypothetical 10% increase or decrease in interest rates would have approximately a $0.1 million impact on our annual interest expense based on the $44.9 million outstanding at September 30, 2017 with an interest rate of 2.99%.

As discussed in Note 17 to the consolidated financial statements, effective April 1, 2010, in order to reduce the volatility of cash outflows that arise from changes in interest rates, we entered into two interest rate swap agreements. These interest rate swap agreements are intended to hedge our mortgage loan related to our headquarters facility in Middletown, Rhode Island by fixing the interest rates specified in the mortgage loan to 5.9% for half of the principal amount outstanding and 6.1% for the remaining half of the principal amount outstanding as of April 1, 2010 until the mortgage loan expires on April 16, 2019.

We are exposed to currency exchange rate fluctuations related to our subsidiary operations in the United Kingdom, Denmark, Norway, Brazil, Singapore, Hong Kong, Cyprus, Japan, Belgium, and the Netherlands. Certain transactions in these locations are made in the local currency, yet are reported in the U.S. dollar. For foreign currency exposures existing at September 30, 2017, a 10% unfavorable movement in the foreign exchange rates for our subsidiary locations would not expose us to material losses in earnings or cash flows.

From time to time, we have purchased foreign currency forward contracts. These forward contracts are intended to offset the impact of exchange rate fluctuations on cash flows of our foreign subsidiaries. Foreign exchange contracts are accounted for as cash flow hedges and are recorded on the balance sheet at fair value until executed. Changes in the fair value are recognized in earnings. We did not enter into any such contracts or have any such contracts outstanding during the nine months ended September 30, 2017.

The primary objective of our investment activities is to preserve principal and maintain liquidity, while at the same time maximizing income. We have not entered into any instruments for trading purposes. Some of the securities that we invest in may have market risk. To minimize this risk, we maintain our portfolio of cash equivalents and short-term investments in a variety of securities that can include United States treasuries, certificates of deposit, investment grade asset-backed corporate securities, money market mutual funds, municipal bonds, and government agency and non-government debt securities. As of September 30, 2017, a hypothetical 100 basis-point increase in interest rates would have resulted in an immaterial decrease in the fair value of our investments that had maturities of greater than one year. Due to the conservative nature of our investments and the relatively short duration of their maturities, we believe this interest rate risk is substantially mitigated. As of September 30, 2017, 33% of the $8.3 million classified as available-for-sale marketable securities will mature or reset within one year. Accordingly, long-term interest rate risk is not considered material for our investment activities. We did not invest in any financial instruments denominated in foreign currencies as of September 30, 2017.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain 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, which are designed to ensure that information required to be disclosed in the reports that we file or submit 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 and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure. Under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, our management has evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2017, the end of the period covered by this interim report. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of September 30, 2017.

Changes in Internal Control over Financial Reporting

Under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, our management has evaluated changes in our internal control over financial reporting that occurred during the third quarter of 2017. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer did not identify any change in our internal control over financial reporting during the third quarter of 2017 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Important Considerations

The effectiveness of our disclosure controls and procedures and our internal control over financial reporting is subject to various inherent limitations, including cost limitations, judgments used in decision making, assumptions about the likelihood of future events, the soundness of our systems, the possibility of human error, and the risk of fraud. Moreover, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions and the risk that the degree of compliance with policies or procedures may deteriorate over time. Because of these limitations, there can be no assurance that any system of disclosure controls and procedures or internal control over financial reporting will be successful in preventing all errors or fraud or in making all material information known in a timely manner to the appropriate levels of management.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

From time to time, we are involved in litigation incidental to the conduct of our business. In the ordinary course of business, we are a party to inquiries, legal proceedings and claims including, from time to time, disagreements with vendors and customers. We are not a party to any lawsuit or proceeding that, in our opinion, is likely to materially harm our business, results of operations, financial condition, or cash flows.

ITEM 1A. RISK FACTORS

An investment in our common stock involves a high degree of risk. You should carefully consider the following risk factors in evaluating our business. If any of these risks, or other risks not presently known to us or that we currently believe are not significant, develops into an actual event, then our business, financial condition and results of operations could be adversely affected. If that happens, the market price of our common stock could decline.

Our new AgilePlans pricing model for our mini-VSAT broadband business may adversely affect our revenues on a short-term or long-term basis.

In April 2017, we launched AgilePlans, our all-inclusive connectivity-as-a-service, or CaaS, usage-based pricing model for our mini-VSAT broadband service. Under this CaaS model, we charge subscribers a monthly fee in exchange for which we provide satellite communication hardware, shipping and installation, maintenance and support, airtime and voice services, a service management portal and certain basic content services. Under this new model, we retain ownership of our satellite equipment and do not sell it to subscribers; accordingly, we anticipate that, to the extent that customers adopt this new subscription model, our revenues from product sales will decline, and our provision of this equipment to subscribers will increase our capital expenditures, which over time will increase our operating expenses as we depreciate these assets. Similarly, we anticipate that revenues from other services included in the plans, which have previously been sold separately, will also decline. Although our goal with the new pricing model is to increase the number of subscribers and thereby increase our overall mobile connectivity revenues, the pricing model is new and untested in our markets and may have unanticipated consequences for our business. There can be no assurance that customers will adopt the new pricing model or that revenues from our AgilePlans will offset the loss of other revenue and increase our overall mobile connectivity revenues. Accordingly, the introduction of this new pricing model may lead to lower overall revenues in our mobile connectivity segment on either a short-term or long-term basis. Further, because we retain ownership of the satellite communications equipment provided to subscribers under the AgilePlans, we may incur increased costs seeking to recover equipment from any customers who may default on payment or transition to another service. Adoption of the same or similar pricing models by competitors may lead to significant price competition, which could also adversely affect our revenues.

Our launch of a new high-throughput satellite network will cause us to incur significant additional operating costs and may create technical challenges and management distraction that may adversely affect our operating profit.

On November 1, 2017, we announced that we are launching a new high-throughput satellite, or HTS, communications service that will make use of Intelsat's Global IntelsatOne Flex managed services and will also incorporate SKY-Perfect JSAT capacity. We currently operate a global network of leased satellite transponders and terrestrial teleports in cooperation with ViaSat, Inc.. We anticipate that the HTS network may eventually significantly reduce costs and enhance the capabilities of the satellite communications services that we offer to our customers. In the short term, however, we expect that the launch of the HTS network will result in additional operating costs resulting from the need to operate both the HTS network and the legacy network. The operation of the HTS network may also present technical challenges arising from Intelsat's use of the relatively new iDirect Velocity technology for the coding and modulation of satellite signals. Further, the operational requirements associated with the HTS network are likely to require significant attention from our management, marketing, sales, and technical teams, potentially distracting them from other opportunities to further develop our services and increase our customer base. Finally, our current focus on the HTS network creates potential risks with respect to the continued operation of our existing satellite communications network and our contractual arrangement with ViaSat and satellite operators. The contractual arrangement with ViaSat and satellite operators will need to be phased out over a period of several years, but the reliability of the existing satellite network will need to be maintained during the entirety of the wind-down period.

Our financial results may be adversely affected by changes in accounting principles applicable to us.

Generally accepted accounting principles in the United States, or U.S. GAAP, are subject to modification and interpretation by the Financial Accounting Standards Board, or the FASB, the SEC, and other bodies formed to promulgate and interpret accounting principles. For example, in May 2014, the FASB issued Accounting Standards Codification Update No. 2014-09, Revenue from Contracts with Customers (Topic 606), which substantially revised revenue recognition guidance under U.S. GAAP. We currently expect to implement this new revenue standard in the first quarter of 2018. Although we are still evaluating the total impact of this new standard, based on our preliminary analysis we believe the adoption of this new standard will have a material impact on our consolidated financial statements, including expected delays in recognition of revenue for certain mini-VSAT Broadband services and hardware contracts and expected balance sheet impacts relating to accounts receivable, contract assets and contract liabilities. These or other changes in accounting principles are expected to adversely affect our reported financial results, including a meaningful increase to our accumulated deficit upon adoption. Moreover, we designed our current system of internal controls to implement existing standards for revenue recognition, and we may encounter difficulties or make errors in modifying our internal controls to address the new standard. Any such difficulties or errors could lead to mistakes in, or delays in filing, our consolidated financial statements as well as deficiencies or weaknesses in our internal control over financial reporting and our disclosure controls and procedures, any of which could lead to additional accounting, legal and other expenses, potential restatements, loss of investor confidence, enforcement actions by governmental authorities, securities class actions and other adverse consequences.

Our revenues and results of operations have been and may continue to be adversely impacted by worldwide economic turmoil, political events, macroeconomic conditions, credit tightening and associated declines in consumer and enterprise spending.

Worldwide economic conditions have experienced significant turmoil over the last several years, including slow economic activity, tight credit markets, inflation and deflation concerns, low consumer confidence, limited capital spending, adverse business conditions, war and refugee crises in the Middle East and Europe, terrorist attacks, the United Kingdom vote to leave the European Union, the 2016 US elections, and liquidity concerns. These conditions make it difficult for businesses, governments and consumers to accurately forecast and plan future activities. Many governments are experiencing significant deficits that have caused and may continue to cause them to curtail spending significantly and/or reallocate funds away from defense programs. There can be no assurances that government programs to improve economic conditions will be effective. As a result of these and other factors, customers and government entities could continue to slow or suspend spending on our products and services. We may also incur increased credit losses and need to further increase our allowance for doubtful accounts, which would have a negative impact on our earnings and financial condition.

We cannot predict the timing, duration, or ultimate impact of the turmoil in our markets. We expect our business to continue to be adversely impacted by this turmoil to varying degrees and for varying amounts of time, in all our geographic markets.

Decline in oil prices may continue to adversely affect our revenues and profitability.

Oil prices have undergone a significant and sustained decline since the peak in 2014. West Texas Intermediate oil prices dropped from a high of $107.26 per barrel on June 20, 2014 to a low of $26.21 per barrel on February 11, 2016. Customers of our mobile satellite business include offshore support vessel companies that participate in or depend on the offshore oil industry. The declines in worldwide oil prices have had a significant impact on the financial performance of companies in this sector of the economy, and as a result demand for new products and services has declined severely during and since 2015 as they have sought to reduce expenditures. In addition, we have experienced a higher customer churn rate primarily attributed to customers that operate in this sector, where the sale, decommissioning, or laying up of vessels has led to a higher rate of airtime plan terminations and suspensions. These trends could continue to limit or reduce demand for our mobile connectivity products and services from companies in this sector, which could continue to adversely affect our revenues and profitability.

Our financial performance is impacted by U.S. government contracts, which are subject to uncertain levels of funding and termination.

We have historically sold a substantial portion of our TACNAV and FOG products and services to the U.S. government and its contractors. We are unable to predict the impact on our business of the change in Presidential administration, which may lead to an overall reduction in federal spending. A reduction in sales to the U.S. government or its contractors, whether due to lack of funding, for convenience or otherwise, or the occurrence of delays, could negatively impact our results of operations and financial condition.

The funding of U.S. government programs is subject to congressional appropriations. Congress generally appropriates funds on a fiscal year basis even though a program may extend over several fiscal years. Consequently, programs are often only partially funded initially and additional funds are committed only as Congress makes further appropriations. Changes in the White House and the composition of Congress may disrupt or delay appropriations for upcoming periods. If appropriations for any program in which we participate become unavailable, or are reduced or delayed, our contract or subcontract under such program may be terminated or adjusted by the government, which could have a negative impact on our future sales under such contract or subcontract. When a formal appropriation bill has not been signed into law before the end of the U.S. government's fiscal year, which has become more frequent in recent years, Congress may pass a continuing resolution that authorizes agencies of the U.S. government to continue to operate, generally at the same funding levels from the prior year, but that typically does not authorize new spending initiatives, during this period. Appropriations can also be impacted by other budgetary considerations, such as failure to increase the statutory debt ceiling of the U.S. government. During such periods (or until the regular appropriation bills are passed), delays can occur in procurement of products and services due to lack of funding, and these delays can affect our results of operations during the period of delay.

Appropriations can also be affected by legislation that addresses larger budgetary issues of the U.S. government. For example, future federal sequestration measures could continue to adversely affect federal spending across the U.S. government, including the Department of Defense, and we expect that these measures will continue to limit or reduce defense spending.

In addition, U.S. government contracts generally also permit the government to terminate the contract, in whole or in part, without prior notice, at the government's convenience or for default based on performance. Government customers can also decline to exercise previously disclosed contract options. If one of our contracts is terminated for convenience, we would generally be entitled to payments for our allowable costs and would receive some allowance for profit on the work performed. If one of our contracts is terminated for default, we would generally be entitled to payments for our work that has been accepted by the government. A termination arising out of our default could expose us to liability and adversely affect our ability to obtain future contracts and orders. Furthermore, on contracts for which we are a subcontractor and not the prime contractor, the U.S. government could terminate the prime contract for convenience or otherwise, irrespective of our performance as a subcontractor.

We must generate a certain level of sales of the TracPhone V-IP series products and our mini-VSAT Broadband service in order to maintain or improve our service gross margins.

As a result of our mini-VSAT Broadband network infrastructure, our cost of service sales includes certain fixed costs that do not generally vary with the volume of service sales, and we have almost no ability to reduce these fixed costs in the short term. These fixed costs have increased significantly each year as we have further expanded our network to accommodate additional subscriber demand and/or coverage areas, and we expect that this trend will continue in 2017 and beyond, particularly as we establish and expand a new high throughput satellite, or HTS, network. Sales of our TracPhone V-IP series products declined from 2015 to 2016, continuing through through the first 9 months of 2017. If sales of our TracPhone V-IP series products and the mini-VSAT Broadband service, including through our new AgilePlans subscription model, do not generate the level of revenue that we expect or if those revenues decline, our service gross margins may decline. As our market share has increased, we have also experienced a general increase in customer termination and suspension rates, compounded by accelerated declines in sales for vessels servicing the oil supply market with some bulk carriers, and lower unit sales of our mobile connectivity hardware, both in the United States and Europe. The failure to improve our mini-VSAT Broadband service gross margins and unit or subscriber sales would have a material adverse effect on our overall profitability.

Competition may limit our ability to sell our mobile connectivity products and services and inertial navigation products.

The mobile connectivity markets and defense navigation and inertial navigation markets in which we participate are very competitive, and we expect this competition to persist and intensify in the future. We may not be able to compete successfully against current and future competitors, which could impair our ability to sell our products and services. For example, improvements in the performance of lower-cost gyros by competitors could potentially jeopardize sales of our FOGs and FOG-based systems. As our market share in the mobile satellite communication market has grown, competition has intensified significantly, most notably from companies that seek to compete primarily on price. These companies may continue to implement price reductions and discounts for both products and services, which have required us to reduce our prices or offer discounts in order to maintain or increase our market share. Some of our VSAT competitors have also leveraged partnerships amongst themselves in order to capture larger combined market share. We anticipate that this trend of substantial competition will continue. Further, some of the companies that we depend on to supply us with capacity on satellite communications networks may vertically integrate by introducing their own products and services in competition with our products and services, thus potentially incentivizing them to refrain from providing satellite network capacity to us, or to make it available only on less favorable terms.

In the marine market for satellite TV equipment, we compete primarily with Intellian, Cobham SATCOM, Orbit Communication Systems, RayMarine (Intellian made), KNS, and Sea King (King Controls).

In the marine market for voice, fax, data, and Internet communication equipment, we compete primarily with Intellian, Cobham SATCOM, Orbit Communication Systems, Jotron AS, KNS Inc., Inmarsat, AddValue, and Iridium Satellite LLC.

In the marine market for voice, fax, data, and Internet services, we compete primarily with Inmarsat, Globalstar LP, and Iridium Satellite LLC. We also face competition from providers of marine satellite data services and maritime VSAT solutions, including Inmarsat (and its Fleet Xpress service), Marlink, MTN/SeaMobile (acquired by Global Eagle Entertainment), SpeedCast, and Harris CapRock (acquired by SpeedCast).

In the market for land mobile satellite TV equipment, we compete primarily with King Controls and Winegard Company.

In the markets for media content, the KVH Media Group competes primarily with Swank Motion Pictures and NewspaperDirect, and Videotel competes with Seagull AS.

In the inertial navigation markets, we compete primarily with Honeywell International Inc., Northrop Grumman Corporation, Goodrich Aerospace, IAI, Fizoptica, SAGEM, and Systron Donner Inertial.

Among the factors that may affect our ability to compete in our markets are the following:

- many of our primary competitors are well-established companies that generally have substantially greater financial, managerial, technical, marketing, personnel and other resources than we do, which help them to compete more effectively in the market for mobile broadband solutions for larger fleets of vessels;
- the infrastructure costs for potential customers to switch from an existing service provider to our service may create disincentives for customers to enter into agreements for our services, even if those services are more attractive or cost effective;
- many of our prime competitors have well-established and/or growing partner programs, which pose a threat of multiplying their market influence;
- product and service improvements, new product and service developments or price reductions by competitors may weaken customer acceptance of, and reduce demand for, our products and services;
- new technology or market trends may disrupt or displace a need for our products and services;
- our competitors may have access to a broader array of media content than we do, which may cause customers to prefer competitors’ media offerings; and
- our competitors may have lower production costs than we do, which may enable them to compete more aggressively in offering discounts and other promotions.

The emergence of a competing small maritime VSAT antenna and complementary service or other similar service could reduce the competitive advantage we believe we currently enjoy with our smaller TracPhone V-IP series antennas and Ku-band mini-VSAT Broadband service, or with our TracPhone V11-IP antenna and our C/Ku-band mini-VSAT Broadband service.

Our TracPhone V3-IP and V7-IP systems offer customers a range of benefits due to their integrated design, hardware costs that are lower than existing maritime Ku-band VSAT systems, and spread spectrum technology. We currently compete against companies that offer established maritime Ku-band VSAT service using, in some cases, antennas 1-meter in diameter or larger. While we are unaware of any company offering a 37-cm VSAT solution comparable to our TracPhone V3-IP, we are encountering regional competition from companies offering 60-cm VSAT systems and services, which are comparable in size to our TracPhone V7-IP. Likewise, our TracPhone V11-IP, at 1.1-meter in diameter, is approximately 85% smaller and lighter than competing C-band maritime VSAT systems, which use antennas in excess of 2.4-meters in diameter to provide similar global services. We are unaware of any competitor currently offering a similar size solution for global C-band coverage, but any introduction of such a product could adversely impact our success. In addition, other companies could replicate some of the distinguishing features of our TracPhone V-IP series products, which could potentially reduce the appeal of our solution, increase price competition, and adversely affect sales. For example, in early 2016, Inmarsat launched its Fleet Xpress service, a global Ka-band mobile VSAT service that Inmarsat claims is faster and has a lower price per megabit than existing Ku-band services. This service may adversely impact sales of our mini-VSAT Broadband service and related equipment. Moreover, consumers may choose other services such as FleetBroadband or Iridium OpenPort for their service coverage at potentially lower hardware costs despite higher service costs and slower data rates.

If we are unable to improve our existing mobile connectivity and inertial navigation products and services and develop new, innovative products and services, our sales and market share may decline.

The markets for mobile connectivity products and services and inertial navigation products and services are each characterized by rapid technological change, frequent new product innovations, changes in customer requirements and expectations, and evolving industry standards. For example, Inmarsat is now selling its latest-generation Fleet Xpress satellite communications products and services. If we fail to make innovations in our existing products and services and reduce the costs of our products and services in a timely way, our market share may decline. For example, the introductions of our new TracVision TV-series antennas in 2014 occurred later than we had anticipated, which we believe led certain customers to purchase competing products. Products or services using new technologies, or emerging industry standards, could render our products and services obsolete. If our competitors successfully introduce new or enhanced products or services that eliminate technological advantages our products or services may have in a market or otherwise outperform our products or services, or are perceived by consumers as doing so, we may be unable to compete successfully in the markets affected by these changes. For competitive reasons, in 2015, we increased warranty coverage for certain of our mobile connectivity products to include an additional year of labor coverage and other benefits, which could increase our costs and impair our profitability.

We are devoting significant resources to research and development efforts that may be unsuccessful.

Research and development in our industry is inherently complex and uncertain, and our current and anticipated research and development projects may not achieve the results we seek. For example, we are currently investing in the development of a new, low-cost FOG for the autonomous vehicle market that will satisfy rigorous performance expectations but that can be manufactured at a significantly lower cost than our current FOGs. We are also seeking to develop enhancements to our current generation of TACNAV products. As with all development projects, we may encounter unforeseen technical challenges, delays, cost overruns, licensing requirements or other problems that prevent us from achieving our goals, as a result of which we could lose significant market opportunities. Our research and development expenses increased 14% from 2015 to 2016; nonetheless, the capital resources that we can devote to our research and development efforts may be insufficient to achieve our goals. Our efforts may not result in any viable products or may result in products whose performance, features, price or availability may not be attractive to customers. As a result, our efforts may not result in products that generate meaningful revenues in the near term, or at all. We may expend a significant amount of resources in unsuccessful research and development efforts, and any failure to achieve our research and development goals may harm our reputation with customers or otherwise adversely affect our business, financial condition and results of operations.

The purchasing and delivery schedules and priorities of the U.S. military and foreign governments are often unpredictable.

We sell our FOG systems and tactical navigation products and services to U.S. and foreign military and government customers, either directly or as a subcontractor to other contractors. These customers often use a competitive bidding process and have unique purchasing and delivery requirements, which often makes the timing of sales to these customers unpredictable. Factors that affect their purchasing and delivery decisions include:

- increasing budgetary pressures, which may reduce or delay funding for military programs;
- changes in modernization plans for military equipment;
- changes in tactical navigation requirements;
- global conflicts impacting troop deployment, including troop withdrawals;
- priorities for current battlefield operations;
- new military and operational doctrines that affect military equipment needs;
- sales cycles that are long and difficult to predict;
- shifting response time and/or delays in the approval process associated with the export licenses we must obtain prior to the international shipment of certain of our military products;
- delays in military procurement schedules; and
- delays in the testing and acceptance of our products, including delays resulting from changes in customer specifications.

These factors periodically cause substantial fluctuations in sales of our TACNAV and FOG products and services from period to period. For example, TACNAV product sales decreased $3.0 million, or 64%, from the nine months ended September 30, 2016 to the nine months ended September 30, 2017, while sales of our TACNAV products increased $6.8 million, or 248%, from the nine months ended September 30, 2015 to the nine months ended September 30, 2016. Similarly, sales of our FOG products increased $1.9 million, or 16%, from the nine months ended September 30, 2016 to the nine months ended September 30, 2017, but sales of our FOG products decreased $0.7 million, or 5%, from the nine months ended September 30, 2015 to the nine months ended September 30, 2016. In October 2014, we received a $19.0 million TACNAV product and services contract with an international military customer which include program management and engineering services expected to be delivered through 2017 and hardware shipments that were completed in the third quarter of 2016, as well as out-year support services to be provided as part of this order. These large orders contribute to the unpredictability of our revenues from period to period. Government customers may change defense spending priorities at any time.

Sales of our FOG systems and TACNAV products generally consist of a few large orders, and the delay or cancellation of a single order could substantially reduce our net sales.

KVH products sold to customers in the defense industry are purchased through orders that can generally range in size from several hundred thousand dollars to more than thirty million dollars. For example, we received orders for TACNAV products and services of $3.5 million, $1.3 million, $1.4 million, $1.5 million, $4.3 million, $19.0 million, and $5.2 million in April 2017, November 2015, September 2015, May 2015, November 2014, October 2014 and May 2014, respectively. Orders of this size are often unpredictable and difficult to replicate. As a result, the delay or cancellation of a single order could materially reduce our net sales and results of operations. We periodically experience repeated and unanticipated delays in defense orders, which make our revenues and operating results less predictable. Because our inertial navigation products typically have relatively higher product gross margins than our mobile connectivity products, the loss of an order for inertial navigation products could have a disproportionately adverse effect on our results of operations.

Only a few customers account for a substantial portion of our inertial navigation revenues, and the loss of any of these customers could substantially reduce our net sales.

We derive a significant portion of our inertial navigation revenues from a small number of customers, many of whom are contractors for the U.S. government. In October 2014, we received a $19.0 million TACNAV product and services contract from an international military customer which includes program management and engineering services expected to be delivered through 2017 and hardware shipments that occurred in 2015 and 2016, as well as out-year support services to be provided as part of this order. The loss of business from any of these customers or delays in orders could substantially reduce our net sales and results of operations and could seriously harm our business. Since we are often awarded a contract as a subcontractor to a major defense supplier that is engaged in a competitive bidding process as prime contractor for a major weapons procurement program, our revenues depend significantly on the success of the prime contractors with which we align ourselves.

Commercial sales of our inertial navigation products are unpredictable.

Fluctuating commercial sales of our inertial navigation products are making it more difficult to predict our future revenues. We have been marketing our inertial navigation products, particularly our FOG products and systems, to original equipment manufacturers for incorporation into commercial products, such as navigation and positioning systems for various applications, including precision mapping, dynamic surveying, self-driving and other autonomous vehicles, train location control and track geometry measurement systems, industrial robotics, and optical stabilization. Because we sell these products to original equipment manufacturers rather than end-users, we have less information about market trends and other developments affecting the buying patterns of end-users and, as a result, may be unable to forecast demand for these products accurately. Sales of FOGs for commercial applications increased from the nine months ended September 30, 2016 to the nine months ended September 30, 2017; however, sales can significantly increase or decrease quarter-to-quarter due to our customer mix. Moreover, sales of these products for commercial applications depend on the success of our customers' products, and any decline in sales of our customers' products would reduce demand for our products.

Our results of operations could be adversely affected by unseasonably cold weather, prolonged winter conditions, disasters or similar events.

Our leisure marine business is highly seasonal, and seasonality can also impact our commercial marine business. Historically, we have generated the majority of our leisure marine product revenues during the first and second quarters of each year, and these revenues typically decline in the third and fourth quarters of each year, compared to the first two quarters. Temporary suspensions of our airtime services typically increase in the third and fourth quarters of each year as boats are placed out of service during winter months. Our leisure marine business is also significantly affected by the weather. Unseasonably cool weather, prolonged winter conditions, hurricanes, unusual amounts of rain, and natural and other disasters may decrease boating, which could reduce our revenues. Specifically, we may encounter a decrease in new airtime activations as well as an increase in the number of cancellations or temporary suspensions of our airtime service.

We could derive an increasing portion of our revenues from commercial leases of mobile connectivity equipment, rather than sales, which could increase our credit and collection risk.

We are actively seeking to increase revenues from the commercial markets for our mini-VSAT Broadband service, particularly shipping companies and other companies that deploy a fleet of vessels. In marketing this service, we offer leasing arrangements for the TracPhone antennas to both commercial and leisure customers. If commercial leases become increasingly popular with our customers, we could face increased risks of default under those leases. Defaults could increase our costs of collection (including costs of retrieving or abandoning leased equipment) and reduce the amount we collect from customers, which could harm our results of operations. Moreover, fleet sales are likely to be less common than, and perhaps substantially larger than, our typical orders, which could lead to increased variability in our quarterly revenues and gross margin realization.

Our ability to compete in the maritime airtime services market may be impaired if we are unable to provide sufficient service capacity to meet customer demand.

We currently offer our mini-VSAT Broadband service in the Americas, Europe, the Middle East, Africa, Asia-Pacific, and Australian and New Zealand waters. In the future, we may need to expand capacity, including under our new HTS network, in existing coverage areas to support our subscriber base. If we are unable to reach agreement with third-party satellite providers to support our mini-VSAT Broadband service and its technology or if transponder capacity is unavailable to meet growing demand in a given region, our ability to provide airtime services will be at risk and could reduce the attractiveness of our products and services.

Changes in foreign currency exchange rates may negatively affect our financial condition and results of operations.

Because of the scope of our foreign sales and foreign operations, we face significant exposure to movements in exchange rates for foreign currencies, particularly the pounds sterling and the euro. During recent periods, the U.S. dollar has strengthened against relevant foreign currencies, which decreases our revenues reported in U.S. dollars and decreases the reported value of our assets in foreign countries. However, if the U.S. dollar weakens, our revenues denominated in foreign currencies but reported in U.S. dollars, as well as the reported value of our assets in foreign countries, would be commensurately higher.

We also have intragroup receivables and liabilities, such as loans, that can generate significant foreign currency effects. Changes in exchange rates, particularly the U.S. dollar against the pounds sterling, could lead to the recognition of unrealized foreign exchange losses.

Moreover, certain of our products and services are sold internationally in U.S. dollars; as the U.S. dollar strengthens, the relative cost of these products and services to customers located in foreign countries increases, which adversely affects export sales. In addition, most of our financial obligations, including payments under our outstanding debt obligations, must be satisfied in U.S. dollars. Our exposures to changes in foreign currency exchange rates may change over time as our business practices evolve and could result in increased costs or reduced revenue and could adversely affect our cash flow. Changes in the relative values of currencies occur regularly and may have a significant impact on our operating results. We cannot predict with any certainty changes in foreign currency exchange rates or the degree to which we can cost-effectively mitigate this exposure.

Brexit and political uncertainty in the United Kingdom and Europe could adversely affect our revenue and results of operations and disrupt our operations.

We have significant operations in the United Kingdom, including the major portion of our KVH Media Group and Videotel operations. The June 2016 referendum supporting the exit of the United Kingdom from the European Union, or Brexit, is causing significant political uncertainty in both the United Kingdom and the European Union. For example, the United Kingdom recently experienced a transition of leadership in its principal political parties; Scotland may seek to remain in the European Union, either by seeking to block Brexit or by obtaining its independence from the United Kingdom; and other members of the European Union may also seek to depart from the European Union. The impact of Brexit and the resulting turmoil on the political and economic future of the United Kingdom and the European Union is uncertain, and we may be adversely affected in ways we do not currently anticipate. Brexit may result in a significant change in the British regulatory environment, which would likely increase our compliance costs. Customers and other businesses may curtail expenditures, including for purchases of our products and services. We may find it more difficult to conduct business in the United Kingdom and the European Union, as Brexit may result in increased restrictions on the movement of capital, goods and personnel. Depending on the outcome of negotiations between the United Kingdom and the European Union regarding the terms of Brexit, we may decide to relocate or otherwise alter our European operations to respond to the new business, legal, regulatory, tax and trade environments that may result. Brexit may materially and adversely affect our relationships with customers, suppliers and employees and could result in decreased revenue, increased expenses, higher tariffs and taxes, and lower earnings and cash flow.

Tight credit availability, environmental concerns and ongoing low levels of consumer confidence are adversely affecting sales of our mobile satellite TV products.

Factors such as tight credit, environmental protection laws and ongoing low levels of consumer confidence can materially and adversely affect sales of larger vehicles and vessels for which our mobile satellite TV products are designed, such as yachts and recreational vehicles. Many customers finance their purchases of these vehicles and vessels, and tight credit availability can reduce demand for both these vehicles and vessels and our mobile satellite TV products. Moreover, in the current credit markets, financing for these purchases has sometimes been unavailable or more difficult to obtain. The increased cost of operating these vehicles and vessels can adversely affect demand for our mobile satellite TV products. Recent declines in oil prices may not result in any material increase in demand.

Our business has substantial indebtedness, which could restrict our business opportunities.

We currently have, and will likely continue to have, a substantial amount of indebtedness. Our indebtedness could, among other things, make it more difficult for us to satisfy our financial obligations, require us to use a large portion of our cash flow from operations to repay and service our debt or otherwise create liquidity problems, limit our flexibility to adjust to market conditions, place us at a competitive disadvantage and expose us to interest rate fluctuations. As of September 30, 2017, we had total debt outstanding of $47.7 million, which included $44.9 million in aggregate principal amount of indebtedness outstanding under our term note that matures in 2019. As of September 30, 2017, there were no borrowings outstanding under the revolver and the full balance of $15.0 million was available for borrowing.

We expect to obtain the money to pay our expenses and pay the principal and interest on our indebtedness from cash flow from our operations and potentially from other debt or equity offerings. Accordingly, our ability to meet our obligations depends on our future performance and capital raising activities, which will be affected by financial, business, economic and other factors, many of which are beyond our control. If our cash flow and capital resources prove inadequate to allow us to pay the principal and interest on our debt and meet our other obligations, we could face substantial liquidity problems and might be required to dispose of material assets or operations, restructure or refinance our debt, which we may be unable to do on favorable terms, and forego attractive business opportunities. In addition, the terms of our existing or future debt agreements may restrict us from pursuing any of these alternatives.

The agreements governing our indebtedness subject us to various restrictions that may limit our ability to pursue business opportunities.

The agreements governing our indebtedness subject us to various restrictions on our ability to engage in certain activities, including, among other things, our ability to:

- acquire other businesses or make investments;
- raise additional capital;
- incur additional debt or create liens on our assets;
- pay dividends or make distributions;
- prepay indebtedness; and
- merge, dissolve, liquidate, consolidate, or dispose of all or substantially all of our assets.

These restrictions may limit or restrict our cash flow and our ability to pursue business opportunities or strategies that we would otherwise consider to be in our best interests.

Our secured credit facility contains certain financial and other restrictive covenants that we may not satisfy, and that, if not satisfied, could result in the acceleration of the amounts due under our secured credit facility and the limitation of our ability to borrow additional funds in the future.

The agreements governing our secured credit facility subject us to various financial and other restrictive covenants with which we must comply on an ongoing or periodic basis. These include covenants pertaining to a maximum consolidated leverage ratio, a minimum consolidated fixed charge coverage ratio, covenants requiring the mandatory prepayment of amounts outstanding under the term loan and the revolver under specified circumstances, including (i) 100% of the net cash proceeds from certain dispositions to the extent not reinvested in our business within a stated period, (ii) 50% of the net cash proceeds from stated equity issuances, and (iii) 100% of the net cash proceeds from certain receipts of more than $250,000 outside the ordinary course of business, and limits on capital expenditures. If we violate any of these covenants, we may suffer a material adverse effect. Most notably, our outstanding debt under our secured credit facility could become immediately due and payable, our lenders could proceed against any collateral securing such indebtedness, and our ability to borrow additional funds in the future could be limited or terminated. Alternatively, we could be forced to refinance or renegotiate the terms and conditions of our secured credit facility, including the interest rates, financial and restrictive covenants and security requirements of the secured credit facility, on terms that may be significantly less favorable to us.

In March 2017, we entered into an amendment to our secured credit facility. This amendment included (i) an increase to the Maximum Consolidated Leverage Ratio from 1.25:1.00 to 1.50:1.00, (ii) an increase to the lowest rate applicable to borrowing under the credit agreement from 1.50% to 1.75%, (iii) an amendment to the amortization schedule for the term loan to reduce the amount of required quarterly principal repayments to $575,000 and (iv) an amendment to the definition of Consolidated Fixed Charges Coverage Ratio to exclude any capital expenditures related to growth or revenue generating initiatives from the calculation. As a condition to the amendment, we made a principal repayment of $6.0 million on the term loan.

A default under agreements governing our indebtedness could result in a default and acceleration of indebtedness under other agreements.

Certain agreements governing our indebtedness contain cross-default provisions whereby a default under one agreement could result in a default and acceleration of our repayment obligations under other agreements. If a cross-default were to occur, we may not be able to pay our debts or borrow sufficient funds to refinance them. Even if new financing were available, it may not be available on favorable terms. If some or all of our indebtedness is in default for any reason, our business, financial condition, and results of operations could be materially and adversely affected.

Our mobile satellite products currently depend on satellite services, gateway teleports and terrestrial networks provided by third parties, and a disruption in those services could adversely affect sales.

Our satellite antenna products include the equipment necessary to utilize satellite services; we do not own the satellites that directly provide two-way satellite communications or the terrestrial networks that interconnect our facilities with the satellite teleports that communicate with the satellites. We currently offer satellite television products compatible with the DIRECTV and DISH Network services in the United States, the Bell TV service in Canada, the Sky Mexico service and various other regional satellite TV services in other parts of the world.

SES, Eutelsat, Sky Perfect-JSAT, Telesat, EchoStar, Intelsat and Star One currently provide the satellite capacity to support the mini-VSAT Broadband service and our TracPhone V-IP series products. Intelsat also currently provides our C-Band satellite coverage. In addition, we have agreements with various teleports and Internet service providers around the globe to support the mini-VSAT Broadband service. The terrestrial fiber links that we use to connect with the Internet and to move our voice and data services between our facilities and the various satellite earth stations that support our services are provided to us through numerous service providers, some of which have contractual relationships with our satellite service providers and not directly with us. We rely on Inmarsat for satellite communications services for our FleetBroadband- and FleetOne-compatible TracPhone products. We also have an arrangement with Iridium for additional satellite communications services that we make available to our customers as a backup option to provide communications redundancy with our primary service offerings.

We exercise little or no control over these third-party providers of satellite, teleport and terrestrial network services, which increases our vulnerability to problems with the services they provide. Due to our reliance on these service providers, when problems occur, it may be difficult to identify the source of the problem. Service disruption or outages, regardless of whether they are caused by our service, the equipment or services of our third-party service providers, or our customers' or their equipment and systems, may result in loss of market acceptance of our service, and any necessary repairs or other remedial actions may cause us to incur significant costs and expenses. Any failure on the part of third-party service providers to achieve or maintain expected performance levels, stability and security could harm our relationships with our customers, result in claims for credits or damages, damage our reputation, significantly reduce customer demand for our solution and seriously harm our financial condition and operating results.

If customers become dissatisfied with the programming, pricing, service, availability or other aspects of any of these satellite services, or if any one or more of these services becomes unavailable for any reason, we could suffer a substantial decline in sales of our satellite products. There may be no alternative service provider available in a particular geographic area, and our modem or other technology may not be compatible with the technology of any alternative service provider that may be available. Even if available, delays caused by switching our technology to another service provider, if available, and qualifying this new service provider could materially harm our customer relationships, business, financial condition and operating results In addition, the unexpected failure of a satellite could disrupt the availability of programming and services, which could reduce the demand for, or customer satisfaction with, our products.

We rely upon spread spectrum communications technology developed by ViaSat and transmitted by third-party satellite providers to permit two-way broadband Internet via our TracPhone V-IP series antennas, and any disruption in the availability of this technology could adversely affect sales.

Our mini-VSAT Broadband service relies on spread spectrum technology developed by ViaSat, for use with satellite capacity controlled by SES, Eutelsat, Sky Perfect-JSAT, Telesat, Echostar, Intelsat and Star One. Our TracPhone two-way broadband satellite terminals combine our stabilized antenna technology with ViaSat's ArcLight spread spectrum mobile broadband technology, along with ViaSat's ArcLight spread spectrum modem. The ArcLight technology is also integrated within the satellite hubs that support this service. Sales of the TracPhone V-IP series products and our mini-VSAT Broadband service could be disrupted if we fail to receive approval from regulatory authorities to provide our spread spectrum service in the waters of various countries where our customers operate or if there are issues with the availability of the ArcLight maritime modems. Moreover, over the course of our ten-year agreement with ViaSat, which expires in 2018, satellite communications technology may continue to evolve, which could reduce the relative attractiveness of the technology we currently offer, and our technology may cease to be compatible with changes in satellite service offerings. As we transition to our new HTS service over the next several years, we may encounter technological challenges, increased expenses, customer dissatisfaction, inventory obsolescence, interruptions in supply, disruptions in current relationships or arrangements and unforeseen obstacles, any of which could have a material adverse effect on our mobile satellite business, revenues and profitability.

We have single dedicated manufacturing facilities for each of our mobile connectivity and inertial navigation product categories, and any significant disruption to a facility could impair our ability to deliver our products.

Excluding the products manufactured by Videotel and KVH Media Group, which we manufacture in the United Kingdom, we currently manufacture all of our mobile connectivity products at our manufacturing facility in Middletown, Rhode Island, and the majority of our inertial navigation products at our facility in Tinley Park, Illinois. Some of our production processes are complex, and we may be unable to respond rapidly to the loss of the use of either production facility. For example, our production facilities use some specialized equipment that may take time to replace if they are damaged or become unusable for any reason. In that event, shipments would be delayed, which could result in customer or dealer dissatisfaction, loss of sales and damage to our reputation. Finally, we have only a limited capability to increase our manufacturing capacity in the short term. If short-term demand for our products exceeds our manufacturing capacity, our inability to fulfill orders in a timely manner could also lead to customer or dealer dissatisfaction, loss of sales and damage to our reputation.

We depend on sole or limited source suppliers, and any disruption in supply could impair our ability to deliver our products on time or at expected cost.

We obtain many key components for our products from third-party suppliers, and in some cases we use a single or a limited number of suppliers. Any interruption in supply could impair our ability to deliver our products until we identify and qualify a new source of supply, which could take several weeks, months or longer and could increase our costs significantly. Suppliers might change or discontinue key components, which could require us to modify our product designs. For example, in the past, we have experienced changes in the chemicals used to coat our optical fiber, which changed its characteristics and thereby necessitated design modifications. Department of Defense regulations requiring government contractors to implement processes to avoid counterfeit parts may require us to find new sources of materials or components if the current supplier cannot meet the requirements. In general, we do not have written long-term supply agreements with our suppliers but instead purchase components through purchase orders, which expose us to potential price increases and termination of supply without notice or recourse. It is generally not our practice to carry significant inventories of product components, and this could magnify the impact of the loss of a supplier. If we are required to use a new source of materials or components, it could also result in unexpected manufacturing difficulties and could affect product performance and reliability. In addition, from time to time, lead times for certain components can increase significantly due to imbalances in overall market supply and demand. This, in turn, could limit our ability to satisfy the demand for certain of our products on a timely basis and could result in some customer orders being rescheduled or canceled.

We may continue to increase the use of international suppliers to source components for our manufacturing operations, which could disrupt our business.

Although we have historically manufactured and sourced raw materials for the majority of our products domestically, in order for us to compete with lower priced competing products while also improving our profitability, in some instances we have found it desirable to source raw materials and manufactured components and assemblies from Europe, Asia, and South America. Reliance on foreign manufacturing and/or raw material supply has lengthened our supply chain and increased the risk that a disruption in that supply chain could have a material adverse effect on our operations and financial performance.

We depend on cloud-based data services operated by third parties, and any disruption in the operation of these services could harm our business.

We host some of our content services and business records using various cloud-based data services operated by third parties. Any failure or downtime in one of these services could affect a significant percentage of our customers. Although we control and have access to our servers and all of the components of our network that are located in our internal facilities and certain of our external data facilities, we do not control the operation of external facilities. The providers of our data management services have no obligation to renew their agreements with us on commercially reasonable terms, or at all. If we are unable to renew these agreements on commercially reasonable terms, or if one or more of our data management service providers is acquired, closes, suffers financial difficulty or is unable to meet our growing capacity needs, we may be required to transfer our data to other services, and we may incur significant costs and service interruptions in connection with doing so, which could harm our reputation with our customers and adversely affect our revenues and results of operations.

Adverse economic conditions could result in financial difficulties or bankruptcy for any of our suppliers, which could adversely affect our business and results of operations.

The current state of worldwide economic conditions and tight credit could present challenges to our suppliers, which could result in disruptions to our business, increase our costs, delay shipment of our products or delivery of services, and impair our ability to generate and recognize revenue. To address their own business challenges, our suppliers may increase prices, reduce the availability of credit, require deposits or advance payments or take other actions that may impose a burden on us.

They may also reduce production capacity, slow or delay delivery of products, face challenges meeting our specifications or otherwise fail to meet our requirements. In some cases, our suppliers may face bankruptcy. We may be required to identify, qualify, and engage new suppliers, which would require time and the attention of management. Any of these events could impair our ability to deliver our products and services to customers in a timely and cost-effective manner, cause us to breach our contractual commitments or result in the loss of customers.

Our media and entertainment business relies on licensing arrangements with content providers, and the loss of or changes in those arrangements could adversely affect our business.

We distribute premium news, sports, movies, and music content for commercial and leisure customers in the maritime, hotel, and retail markets. We do not generate this content but instead license the content from third parties on a non-exclusive basis. We do not have long-term license agreements with any content provider. Accordingly, any content provider could terminate our existing arrangements with little or no advance notice or could adversely modify the terms of the arrangement, including initiating potential price increases. Further, the licenses we obtain are limited in scope, and any violation of the terms of a license could expose us to liability for copyright infringement. We pay license fees that are based in part on the revenue we generate from sublicenses, and our licensors generally have the right to audit our records to determine whether we have paid all necessary license fees. Failure to pay required license fees could result in any combination of termination of our license rights, penalties, or damages. The loss of content could adversely affect the attractiveness of our media and entertainment offerings, which could in turn adversely affect our revenues. Any increase in the cost of content could reduce the profitability of these offerings.

Any failure to maintain and expand our third-party distribution relationships may limit our ability to penetrate markets for mobile connectivity products and services.

We market and sell our mobile connectivity products and services through an international network of independent retailers, chain stores and distributors, as well as to manufacturers of marine vessels, recreational vehicles and buses. Many of our distributors are also responsible for providing onsite support and installation for our products, which requires our distributors to employ highly skilled workers and maintain facilities in locations convenient to our customers, such as at maritime ports. We also expect our distributors to assist us in expanding internationally. Some of our distribution relationships are new, and our new distributors may not be successful in marketing and selling our products and services. In addition, our distribution partners do not have exclusive relationships with us and may sell products of other companies, including competing products, and are generally not required to purchase minimum quantities of our products. Our competitors may be able to cause our current or potential distributors to favor their services over ours, either through financial incentives, technological innovation, by offering a broader array of services to these service providers or otherwise, which could reduce the effectiveness of our use of these distributors. If we fail to maintain relationships with our current distributors, fail to develop relationships with new distributors in new and existing markets, or manage, train, or provide appropriate incentives to our existing distributors, or if our distributors are not successful in their sales efforts, sales of our products and services may decline and our operating results could be harmed.

Our international business operations expose us to a number of difficulties in coordinating our activities abroad and in dealing with multiple regulatory environments.

Historically, sales to customers outside the United States have accounted for a significant portion of our net sales, and our acquisitions of Videotel in July 2014 and KVH Media Group in May 2013 increased our sales in new foreign markets. We derived 61%, 63%, 67%, and 58% of our revenues in the nine months ended September 30, 2017 and the years ended December 31, 2016, 2015, and 2014, respectively, from sales to customers outside the United States. Sales to customers in Canada represented 11% and 10% of net sales for the years ended December 31, 2016 and 2015, respectively. Otherwise, no individual foreign country represented 10% or more of our consolidated net sales for the years ended December 31, 2016, 2015 and 2014. We have foreign sales offices in Denmark, the United Kingdom, Singapore, Hong Kong, Japan, Norway, Cyprus and the Philippines, as well as a subsidiary in Brazil that manages local sales. However, aside from these international sales offices, substantially all of our personnel and operations, particularly for our mobile connectivity equipment business and our inertial navigation business, are located in the United States. Our limited operations in foreign countries may impair our ability to compete successfully in international markets and to meet the service and support needs of our customers in countries where we have little to no infrastructure. We are subject to a number of risks associated with our international business activities, which may increase our costs and require significant management attention. Our acquisitions of Videotel and KVH Media Group have augmented these risks. These risks include:

- technical challenges we may face in adapting our mobile connectivity products to function with different satellite services and technology in use in various regions around the world;
- satisfaction of international regulatory requirements and delays and costs associated with procurement of any necessary licenses or permits;
- the potential unavailability of content licenses covering international waters and foreign locations;
- restrictions on the sale of certain inertial navigation products to foreign military and government customers;
- increased costs of providing customer support in multiple languages;
- increased costs of managing operations that are international in scope;
- potentially adverse tax consequences, including restrictions on the repatriation of earnings;
- protectionist laws and business practices that favor local competitors, which could slow our growth in international markets;

- potentially longer sales cycles, which could slow our revenue growth from international sales;
- potentially longer accounts receivable payment cycles and difficulties in collecting accounts receivable; and
- economic and political instability in some international markets.

We could incur additional legal compliance costs associated with our international operations and could become subject to legal penalties if we do not comply with certain regulations.

As a result of our expanding international operations, we are subject to a number of legal requirements, including the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act and the customs, export, trade sanctions and anti-boycott laws of the United States, including those administered by the U.S. Customs and Border Protection, the Bureau of Industry and Security, the Department of Commerce, the Department of State, and the Office of Foreign Assets Control of the Treasury Department, as well as those of other nations in which we do business. In addition, the governments of many of the countries where our customers use our products and services maintain licensing and regulatory requirements for the importation and use of satellite communications and reception equipment, including the use of such equipment in the country’s territorial waters, the transmission of satellite signals on certain radio frequencies, the transmission of voice over Internet services using such equipment, and, in some cases, the reception of certain video programming services. These laws and regulations are changing continuously, and compliance with these laws and regulations is complex. We incur significant costs identifying and maintaining compliance with applicable licensing and regulatory requirements. Our risks of non-compliance are heightened for acquired businesses that have historically been managed outside the United States, where these laws and regulations may not have applied to the same extent. Our assessment of compliance with these laws and regulations by businesses that we have acquired may not have uncovered instances of non-compliance, and we may face liability for such non-compliance. In addition, our training and compliance programs and our other internal control policies may be insufficient to protect us from acts committed by our employees, agents or third-party contractors. Any violation of these requirements by us or our employees, agents or third-party contractors may subject us to significant criminal and civil liability.

Exports of certain inertial navigation products are subject to the U.S. Export Administration Regulations and the International Traffic in Arms Regulations and require a license from the U.S. Department of State prior to shipment.

We must comply with the United States Export Administration Regulations and the International Traffic in Arms Regulations, or ITAR. Certain of our products have military or strategic applications and are on the munitions list of the ITAR and require an individual validated license in order to be exported to certain jurisdictions. Any changes in export regulations or reclassifications of our products may further restrict the export of our products, and we may cease to be able to procure export licenses for our products under existing regulations. The length of time required by the licensing process can vary, potentially delaying the shipment of products and the recognition of the corresponding revenue. Any restriction on the export of a product line or any amount of our products could cause a significant reduction in net sales.

We are subject to FCC rules and regulations, and any non-compliance could subject us to FCC enforcement actions, fines, loss of licenses and possibly restrictions on our ability to operate or offer certain of our services.

The satellite communications industry is regulated by the Federal Communications Commission in the United States and, as a result, we are subject to existing and potential FCC regulations relating to privacy, contributions to the Universal Service Fund, or USF, and other requirements. If we do not comply with FCC rules and regulations, we could be subject to FCC enforcement actions, substantial fines, penalties, loss of licenses and possibly restrictions on our ability to operate or offer certain of our services. Any enforcement action by the FCC, which may be a public process, could hurt our reputation in the industry, possibly impair our ability to sell our services to customers and could harm our business and results of operations.

Reform of federal and state USF programs could increase the cost of our service to our customers, diminishing or eliminating our pricing advantage.

The FCC has been considering reform or other modifications to its USF program. The way we calculate our contribution to USF may change if the FCC engages in reform or adopt other modifications. In April 2012, the FCC released a Further Notice of Proposed Rulemaking to consider reforms to the manner in which companies like us contribute to the federal USF program. In general, the Further Notice of Proposed Rulemaking indicates that the FCC is considering changes to the companies that should contribute, how contributions should be assessed, and methods to improve the administration of the system. We cannot predict the outcome of this proceeding or its impact on our business at this time. The changes in the leadership of the U.S. Government resulting from the federal election in 2016 may renew interest in completing this proceeding.

Should the FCC adopt new contribution mechanisms or otherwise modify contribution obligations that increase our contribution burden, we will either need to raise the amount we currently collect from our customers to cover this obligation or absorb the costs, which would reduce our profit margins. The attractiveness of our services may also be reduced as compared to the services of those of our competitors that do not appear to contribute to USF, or do not do so to the same extent that we do.

Privacy concerns and domestic or foreign laws and regulations may reduce demand for our services, increase our costs and harm our business.

Our company and our customers can potentially use our services to collect, use and store information, including personally identifiable information or other information treated as confidential, regarding the content and manner of usage of our services by them, their employees and maritime crews. Federal, state and foreign governments and agencies have adopted, are considering adopting, or may adopt laws and regulations regarding the collection, use, storage and disclosure of such information obtained from consumers and individuals. The costs of compliance with, and other burdens imposed by, such laws and regulations that are applicable to us and the operations of our customers may limit the use and adoption of our services and reduce overall demand, and any non-compliance with these laws and regulations could lead to significant fines, penalties or other regulatory liabilities such as orders or consent decrees forcing us to modify our privacy practices, as well as reputational damage or third-party lawsuits seeking damages or other relief.

Domestic and international legislative and regulatory initiatives may harm our ability, and the ability of our customers, to process, handle, store, use and transmit information, including demographic and personally identifiable information or other information treated as confidential, regarding individual users of the services, which could reduce demand for some of our services, increase our costs and force us to change our business practices. These laws and regulations are still evolving and are likely to be in flux and subject to uncertain interpretation for the foreseeable future. Our business could be harmed if legislation or regulations are adopted, interpreted or implemented in a manner that is inconsistent from country to country and inconsistent with our current policies and practices, or those of our customers. In addition, foreign data protection, privacy, and consumer protection laws and regulations are often more stringent than those in the United States. In particular, the European Union and its member states traditionally have imposed greater legal obligations on companies that collect and process personal data.

Acquisitions may disrupt our operations or adversely affect our results.

We evaluate strategic acquisition opportunities to acquire other businesses as they arise, such as our acquisitions of Videotel in July 2014 and KVH Media Group in May 2013. The expenses we incur evaluating and pursuing these and other such acquisitions could have a material adverse effect on our results of operations. For example, during 2014, we incurred significant expenses related to the acquisition of Videotel. If we acquire a business, we may be unable to manage it profitably or successfully integrate its operations with our own. Moreover, we may be unable to realize the strategic, financial, operational and other benefits we anticipate from any acquisition, and any acquisition may increase our overall operating expenses. Competition for acquisition opportunities could increase the price we pay for businesses we acquire and could reduce the number of potential acquisition targets. Further, our approach to acquisitions may involve a number of special financial and business risks, such as:

- entry into new and unfamiliar lines of business or markets, which may present challenges or risks that we did not anticipate;
- entry into new or unfamiliar geographic regions, including exposure to additional tax and regulatory regimes;
- increased expenses associated with the amortization of acquired intangible assets;
- increased exposure to fluctuations in foreign currency exchange rates;
- charges related to any potential acquisition from which we may withdraw;
- diversion of our management’s time, attention, and resources;
- loss of key acquired personnel;
- increased costs to improve or coordinate managerial, operational, financial, and administrative systems, including compliance with the Sarbanes-Oxley Act of 2002;
- dilutive issuances of equity securities;
- the assumption of legal liabilities; and
- losses arising from impairment charges associated with goodwill or intangible assets.

For example, we incurred additional expenses to implement internal control over financial reporting appropriate for a public company at Videotel and KVH Media Group, which previously operated as private companies not subject to U.S. generally accepted accounting principles.

If we cannot effectively manage changes in our rate of growth, our business may suffer.

We have previously expanded our operations to pursue existing and potential market opportunities, and we are continuing to expand our international operations. For example, we expanded our service offerings through the acquisitions of Videotel in 2014 and KVH Media Group in 2013. This growth placed a strain on our personnel, management, financial and other resources and increased our operating expenses. If any portion of our business grows more rapidly than we anticipate and we fail to manage that growth properly, we may incur unnecessary expenses, and the efficiency of our operations may decline. If we are unable to adjust our operating expenses on a timely basis in response to changes in revenue cycles, our results of operations may be harmed. To manage changes in our rate of growth effectively, we must, among other things:

- match our manufacturing facilities and capacity to demand for our products and services in a timely manner;
- secure appropriate satellite capacity to match changes in demand for airtime services in a timely manner;
- successfully attract, train, motivate and manage appropriate numbers of employees for manufacturing, sales, marketing and customer support activities;
- effectively manage our inventory and working capital;
- maintain the efficiencies within our operating, administrative, financial and accounting systems; and
- ensure that our procedures and internal controls are revised and updated to remain appropriate for the size and scale of our business operations.

We may be unable to hire and retain the skilled personnel we need to expand our operations.

To meet our growth objectives, we must attract and retain highly skilled technical, operational, managerial and sales and marketing personnel. If we fail to attract and retain the necessary personnel, we may be unable to achieve our business objectives and may lose our competitive position, which could lead to a significant decline in net sales. We face significant competition for these skilled professionals from other companies, research and academic institutions, government entities and other organizations.

Our success depends on the services of our executive officers.

Our future success depends to a significant degree on the skills and efforts of Martin Kits van Heyningen, our co-founder, President, Chief Executive Officer, and Chairman of the Board. If we lost the services of Mr. Kits van Heyningen, our business and operating results could be seriously harmed. We also depend on the ability of our other executive officers to work effectively as a team. The loss of one or more of our executive officers could impair our ability to manage our business effectively.

Our business may suffer if we cannot protect our proprietary technology.

Our ability to compete depends significantly upon our patents, copyrights, source code, and other proprietary technology. The steps we have taken to protect our technology may be inadequate to prevent others from using what we regard as our technology to compete with us. Our patents could expire or be challenged, invalidated or circumvented, and the rights we have under our patents could provide no competitive advantages. Existing trade secret, copyright, and trademark laws offer only limited protection. Customers or others with access to our proprietary or licensed media content could copy that content without permission or otherwise violate the terms of our customer agreements, which would adversely affect our revenues and could impair our relationships with content providers. In addition, the laws of some foreign countries do not protect our proprietary technology to the same extent as the laws of the United States, which could increase the likelihood of misappropriation. Furthermore, other companies could independently develop similar or superior technology without violating our intellectual property rights. Any misappropriation of our technology or the development of competing technology could seriously harm our competitive position, which could lead to a substantial reduction in net sales.

If we resort to legal proceedings to enforce our intellectual property rights, the proceedings could be burdensome, disruptive and expensive, distract the attention of management, and there can be no assurance that we would prevail.

Also, we have delivered certain technical data and information to the U.S. government under procurement contracts, and it may have unlimited rights to use that technical data and information. There can be no assurance that the U.S. government will not authorize others to use that data and information to compete with us.

Claims by others that we infringe their intellectual property rights could harm our business and financial condition.

Our industries are characterized by the existence of a large number of patents and frequent claims and related litigation regarding patent and other intellectual property rights. We cannot be certain that our products do not and will not infringe issued patents, patents that may be issued in the future, or other intellectual property rights of others.

We do not generally conduct exhaustive patent searches to determine whether the technology used in our products infringes patents held by third parties. In addition, product development is inherently uncertain in a rapidly evolving technological environment in which there may be numerous patent applications pending, many of which are confidential when filed, with regard to similar technologies.

From time to time we have faced claims by third parties that our products or technology infringe their patents or other intellectual property rights, and we may face similar claims in the future. For example, we were sued for patent infringement in 2015, and we settled this claim in January 2016 with a payment of cash to Advanced Media Network. Any claim of infringement could cause us to incur substantial costs defending against or settling the claim, even if the claim is invalid, and could distract the attention of our management. If any of our products are found to violate third-party proprietary rights, we may be required to pay substantial damages. In addition, we may be required to re-engineer our products or obtain licenses from third parties to continue to offer our products. Any efforts to re-engineer our products or obtain licenses on commercially reasonable terms may not be successful, which would prevent us from selling our products, and, in any case, could substantially increase our costs and have a material adverse effect on our business, financial condition and results of operations.

Cybersecurity breaches could disrupt our operations, expose us to liability, damage our reputation, and require us to incur significant costs or otherwise adversely affect our financial results.

We are highly dependent on information technology networks and systems, including the Internet, to securely process, transmit and store electronic information, including personal information of our customers. We also retain sensitive data, including intellectual property, proprietary business information, personally identifiable information, credit card information, and usage data of our employees and customers on our computer networks. Although we take certain protective measures and endeavor to modify them as we believe circumstances warrant, invasive technologies and techniques continue to evolve rapidly, and our computer systems, software and networks are vulnerable to disruption, shutdown, unauthorized access, misuse, erasure, alteration, employee error, phishing, computer viruses or other malicious code, and other events that could have a security impact. Any security breach may compromise information stored on our networks and may result in significant data losses or theft of our, our customers', our business partners' or our employees' sensitive information. Public reports suggest that cybersecurity incidents are happening more often and with increasingly severe consequences. We may be required to expend substantial additional resources to augment our efforts to address potential cybersecurity risks, which could adversely affect our results of operations.

If any of these events were to occur, they could disrupt our operations, distract our management, cause us to lose existing customers and fail to attract new customers, as well as subject us to regulatory actions, litigation, fines, damage to our reputation or competitive position, or orders or decrees requiring us to modify our business practices, any of which could have a material adverse effect on our financial position, results of operations or cash flows.

Our media business may expose us to claims regarding our media content.

Our media business produces training films and eLearning computer-based training courses, including programs on safety, maintenance, security and regulatory compliance, and also provides commercially licensed maritime charting and navigation information. Our efforts to ensure the accuracy and reliability of the content we provide could be inadequate, and we could face claims of liability based on this content. Contractual and other measures we take to limit our liability may be inadequate to protect us from these claims. Although we have certain rights of indemnification from third parties for certain portions of the content we provide to customers, it may be time-consuming and expensive to enforce our rights, and the third parties may lack the resources to fulfill their obligations to us. Further, our insurance coverage is subject to deductibles, exclusions and limitations of coverage, and there can be no assurance that our insurance coverage would be available to satisfy any claims against us. Any such claims may have a material adverse effect on our financial condition and results of operations.

We identified material weaknesses in our internal control over financial reporting as of December 31, 2014, and the occurrence of these or any other material weaknesses could have a material adverse effect on our ability to report accurate financial information in a timely manner.

As described in “Item 9A. Controls and Procedures” of our annual report on Form 10-K for the year ended December 31, 2014, our management concluded that we had material weaknesses in our internal control over financial reporting as of December 31, 2014 and therefore did not maintain effective internal control over financial reporting or effective disclosure controls and procedures, both of which are requirements of the Securities Exchange Act of 1934, as of that date. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. The material weaknesses related to inertial navigation contracts where revenue is recognized on a bill and hold basis, the accounting for income taxes and the accounting for multiple-element lease transactions. Following the identification of the material weaknesses in March 2015, management implemented remediation plans and successfully tested the control remediation as of December 31, 2015. On that basis, management concluded that the material weaknesses had been remediated as of December 31, 2015.

The remedial measures we took may not be adequate to prevent future misstatements or avoid other control deficiencies or material weaknesses. The effectiveness of our internal control over financial reporting is subject to various inherent limitations, including cost limitations, judgments used in decision making, assumptions about the likelihood of future events, the soundness of our systems, the possibility of human error, and the risk of fraud. Moreover, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions and the risk that the degree of compliance with policies or procedures may deteriorate over time. Because of these limitations, there can be no assurance that any system of or internal control over financial reporting will be successful in preventing all errors or fraud or in making all material information known in a timely manner to the appropriate levels of management. As a result, it is possible that our financial statements will not comply with generally accepted accounting principles, will contain a material misstatement or will not be available on a timely basis, any of which could cause investors to lose confidence in us and lead to, among other things, declines in our stock price, unanticipated legal, accounting and other expenses, delays in filing required financial disclosures, breach of contractual commitments to lenders or others, enforcement actions by government authorities, fines, penalties, the delisting of our common stock and liabilities arising from stockholder litigation.

Fluctuations in our quarterly net sales and results of operations could depress the market price of our common stock.

We have at times experienced significant fluctuations in our net sales and results of operations from one quarter to the next. Our future net sales and results of operations could vary significantly from quarter to quarter due to a number of factors, many of which are outside our control. Accordingly, you should not rely on quarter-to-quarter comparisons of our results of operations as an indication of future performance. It is possible that our net sales or results of operations in a quarter will fall below the expectations of securities analysts or investors. If this occurs, the market price of our common stock could fall significantly. Our results of operations in any quarter can fluctuate for many reasons, including:

- changes in demand for our mobile connectivity products and services and inertial navigation products and services;
- the timing and size of individual orders from military customers, which may be delayed or canceled for various reasons;
- the mix of products and services we sell, including the mix of fixed rate and metered contracts for airtime services;
- our ability to manufacture, test and deliver products in a timely and cost-effective manner, including the availability and timely delivery of components and subassemblies from our suppliers;
- our success in winning competitions for orders;
- the timing of new product introductions by us or our competitors;
- the scope of our investments in research and development;
- expenses incurred in pursuing acquisitions;
- expenses incurred in expanding, maintaining, or improving our mini-VSAT Broadband network;
- market and competitive pricing pressures;
- unanticipated charges or expenses, such as increases in warranty claims;
- general economic climate; and
- seasonality of pleasure boat and recreational vehicle usage.

In 2017, in light of our current investments in research and development and the establishment and expansion of our new HTS network, we expect that our operating expenses in each quarter of 2017 could increase significantly over the amount we incurred in the comparable quarter of 2016.

In late 2015, we introduced new rate plans for our airtime services, including various rate plans that offer higher data speeds with usage caps. Under these rate plans, customers receive a base level of service for a fixed fee and pay additional fees for usage over the base level. Accordingly, the revenue we generate from a customer may vary with that customer's usage. We are unable to predict accurately the extent to which customers will transition to particular metered rate plans or the degree to which usage, and therefore our revenue, may vary from quarter to quarter.

A large portion of our expenses, including expenses for network infrastructure, facilities, equipment, and personnel, are relatively fixed. Accordingly, if our net sales decline or do not grow as much or as quickly as we anticipate, we might be unable to maintain or improve our operating margins. Any failure to achieve anticipated net sales could therefore significantly harm our operating results for a particular fiscal period.

The market price of our common stock may be volatile.

Our stock price has historically been volatile. During the period from January 1, 2014 to September 30, 2017, the trading price of our common stock ranged from $7.31 to $15.79. Many factors may cause the market price of our common stock to fluctuate, including:

- variations in our quarterly results of operations;
- the introduction of new products and services by us or our competitors;
- changing needs of military customers;
- changes in estimates of our performance or recommendations by securities analysts;
- the hiring or departure of key personnel;
- acquisitions or strategic alliances involving us or our competitors;
- market conditions in our industries; and
- the global macroeconomic and geopolitical environment.

In addition, the stock market can experience extreme price and volume fluctuations. Major stock market indices experienced dramatic declines in 2008, in the first quarter of 2009 and in January 2016. These fluctuations are often unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the market price of our common stock. When the market price of a company's stock drops significantly, stockholders often institute securities litigation against that company. Any such litigation could cause us to incur significant expenses defending against the claim, divert the time and attention of our management and result in significant damages.

We may have exposure to additional tax liabilities, which could negatively impact our income tax expense, net income and cash flow.

We are subject to income taxes and other taxes in both the U.S. and the foreign jurisdictions in which we currently operate. The determination of our worldwide provision for income taxes and current and deferred tax assets and liabilities requires significant judgment and estimation. In the ordinary course of our business, there are many transactions and calculations where the ultimate tax determination is uncertain. We are subject to regular review and audit by both domestic and foreign tax authorities and to the prospective and retrospective effects of changing tax regulations and legislation. The new Presidential administration and Congress have expressed an intent to revise the federal tax code, and we are currently unable to predict the impact of any revisions on our tax position or tax obligations. Although we believe our tax estimates are reasonable, the ultimate tax outcome may materially differ from the tax amounts recorded in our consolidated financial statements and may materially affect our income tax benefit or expense, net loss or income, and cash flows in the period in which such determination is made. As of September 30, 2017, we had liabilities for uncertain tax positions of $1.5 million.

Deferred tax assets are recognized for the expected future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities, and for operating losses and tax credit carry forwards. In certain instances, a valuation allowance may be recorded to reduce certain deferred tax assets to estimated realizable value. We review our deferred tax assets and valuation allowance requirements on a quarterly basis. If, during our quarterly reviews of our deferred tax assets, we determine that it is more likely than not that we will not be able to generate sufficient future taxable income to realize the net carrying value of deferred tax assets, we will record a valuation allowance to reduce the tax assets to estimated realizable value, which could result in a material income tax charge. As part of our review, we consider positive and negative evidence, including cumulative results of recent years. As a result of negative evidence, principally three years of cumulative pre-tax operating losses as of December 31, 2016, we concluded that it was more likely than not that certain of our deferred tax assets were not realizable and therefore, recorded a full valuation allowance of $6.8 million against these deferred tax assets as of December 31, 2016. We have also recorded additional valuation allowances of $4.4 million related to net operating losses and tax credits incurred in certain jurisdictions for the nine months ended September 30, 2017.

Changes in the competitive environment or supply chain issues may require inventory write-downs.

From time to time, we have recorded significant inventory charges and/or inventory write-offs as a result of substantial declines in customer demand. Market or competitive changes could lead to future charges for excess or obsolete inventory, especially if we are unable to appropriately adjust the supply of material from our vendors.

If goodwill or other intangible assets that we have recorded in connection with our acquisitions of other businesses become impaired, we could have to take significant charges against earnings.

As a result of our acquisitions, we have recorded, and may continue to record, a significant amount of goodwill and other intangible assets. Under current accounting guidelines, we must assess, at least annually and potentially more frequently, whether the value of goodwill and other intangible assets has been impaired. Any reduction or impairment of the value of goodwill or other intangible assets will result in additional charges against earnings, which could materially reduce our reported results of operations in future periods.

Compliance with conflict minerals disclosure rules may further increase our costs and adversely affect our results of operations.

We are subject to the SEC's disclosure requirements for public companies that manufacture, or contract to manufacture, products for which certain minerals and their derivatives, namely tin, tantalum, tungsten and gold, known as "conflict minerals," are necessary to the functionality or production of those products. These regulations require us to determine which of our products contain conflict minerals and, if so, to perform an extensive inquiry into our supply chain in an effort to determine whether or not such conflict minerals originate from the Democratic Republic of Congo, or DRC, or an adjoining country. In May 2017, the European Union adopted the Conflict Minerals Regulation, which will take effect in 2021, may apply to us and may impose more extensive requirements than those adopted by the SEC. We may incur increased costs to comply with these disclosure requirements, including costs related to determining the source of any of the relevant minerals used in our products, which would adversely affect our results of operations. Because our supply chain is complex, the country of origin inquiry and due diligence procedures that we implement may not enable us to ascertain the origins of any conflict minerals that we use or determine that these minerals did not originate from the DRC or an adjoining country, which may harm our reputation with customers, investors, non-governmental organizations or others and lead to a decline in our stock price. In the conflict minerals report that we filed in 2017, we concluded that the origins of the relevant conflict minerals we used in 2016 were "DRC conflict undeterminable," as a result of which we were not required to obtain an independent private sector audit of our conflict minerals report. The temporary rules permitting issuers to report that the origins of the conflict minerals they use are "DRC conflict undeterminable" have expired; however, in recent litigation, portions of the conflict mineral rules were found to be unconstitutional, and the SEC staff has indicated that it will not recommend enforcement action for certain failures to comply with the rules, including the requirement to obtain an independent private sector audit in certain cases. We currently do not expect to obtain any such audit for future conflict minerals reports, and our expenses could increase if the SEC or its staff modifies the rules or its enforcement position. We may also face difficulties in satisfying customers who may require that our products be certified as DRC conflict-free, which could harm our relationships with these customers and lead to a loss of revenue. These requirements could also have the effect of limiting the pool of suppliers from which we source these minerals, and we may be unable to obtain conflict-free minerals at competitive prices, which could increase our costs and adversely affect our manufacturing operations and our profitability.

Our charter and by-laws and Delaware law may deter takeovers.

Our certificate of incorporation, by-laws and Delaware law contain provisions that could have an anti-takeover effect and discourage, delay or prevent a change in control or an acquisition that many stockholders may find attractive. These provisions may also discourage proxy contests and make it more difficult for our stockholders to take some corporate actions, including the election of directors. These provisions relate to:

- the ability of our Board of Directors to issue preferred stock, and determine its terms, without a stockholder vote;
- the classification of our Board of Directors, which effectively prevents stockholders from electing a majority of the directors at any one annual meeting of stockholders;
- the limitation that directors may be removed only for cause by the affirmative vote of the holders of two-thirds of our shares of capital stock entitled to vote;
- the prohibition against stockholder actions by written consent;
- the inability of stockholders to call a special meeting of stockholders; and
- advance notice requirements for stockholder proposals and director nominations.

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

On November 26, 2008, our Board of Directors authorized a program to repurchase up to one million shares of our common stock. As of September 30, 2017, 341,000 shares of common stock remain available for repurchase under the program. The repurchase program is funded using our existing cash, cash equivalents, marketable securities, and future cash flows. Under the repurchase program, at management's discretion, we may repurchase shares on the open market from time to time, in privately negotiated transactions or block transactions, or through an accelerated repurchase agreement. The timing of such repurchases depends on availability of shares, price, market conditions, alternative uses of capital, and applicable regulatory requirements. The program may be modified, suspended or terminated at any time without prior notice. The repurchase program has no expiration date. There were no other repurchase programs outstanding during the three months ended September 30, 2017, and no repurchase programs expired during the period.

We did not repurchase any shares of our common stock in open market transactions during the three months ended September 30, 2017.

During the three months ended September 30, 2017, no vested restricted shares were surrendered to us in satisfaction of tax withholding obligations.

ITEM 5. OTHER INFORMATION

On November 1, 2017, our board of directors adopted amended and restated by-laws. The principal modifications to the by-laws effected an updating of our advance notice by-laws, included in Sections 3.7 and 4.8 of the by-laws, to more closely align with current practices. We last amended our advance notice by-laws more than a decade ago. The amended and restated by-laws became effective immediately upon adoption.

Sections 3.7 and 4.8 already required stockholders intending to propose business or make a nomination for director at the annual meeting to give us timely advance written notice of such business or nomination. The amendments modified Sections 3.7 and 4.8 to provide that such notice must be given not later than the close of business on the 90th day prior to the Specified Date (as defined in the by-laws) nor earlier than the 120th day prior to the Specified Date. The amendments did not change the definition of the Specified Date, which is the first Wednesday in May in each year (unless that day is a legal holiday). The amendments also require that the proponent be a stockholder at the time of the meeting as well as the time of the notice.

For our annual meeting in 2018, the Specified Date is May 2, 2018. Accordingly, in order to bring any business before, or nominate any person for election as a director at, the 2018 annual meeting in accordance with our amended by-laws, a stockholder must deliver the requisite notice to us no later than the close of business on February 1, 2018 and no earlier than January 2, 2018. Further, our by-laws already provided that, if we hold our annual meeting before the Specified Date, then unless we give a specified amount of notice or prior public disclosure of the date of the meeting, stockholders will also have the opportunity to give the requisite notice not later than the close of business on the tenth day after the earlier of (1) the day on which we mail notice of the date of the meeting and (2) the day on which we publicly disclose the date of the meeting. The amendments increased the specified amount of notice or prior public disclosure that we must provide from 70 days to 105 days.

The amendments further modified Sections 3.7 and 4.8 to require stockholders to provide us with additional information in connection with any proposal or nomination. This information includes the text of any proposal; a description of any material interests of affiliates and associates in any proposal; a description of any compensation, reimbursement or indemnification arrangements between the proponent and any nominee; information about persons known to support any nominee; and disclosure of derivative or short positions, profits interests, options, hedging transactions, borrowed or loaned shares or other agreements, arrangements or understandings the effect or intent of which is to mitigate loss, manage risk or benefit from changes in prices of our capital stock or increase or decrease voting power in our stock.

The amendments provide that, if the proponent does not appear at the annual meeting or send a qualified representative to propose its business or make its nomination, such business will not be transacted and such nomination will be disregarded. Lastly, the amendments define certain terms, including “public disclosure,” “affiliate,” “associate,” “beneficially owned” and “qualified representative,” and make other technical and conforming changes.

The foregoing description of the amendments does not purport to be complete and is qualified in its entirety by reference to the full text of the amended by-laws, a copy of which is attached hereto as Exhibit 3.2 and is incorporated herein by reference.

ITEM 6. EXHIBITS

Exhibits:

Exhibit No.	Description	Filed with this Form 10-Q	Incorporated by Reference		
			Form	Filing Date	Exhibit No.
3.1	Amended and Restated Certificate of Incorporation, as amended		10-Q	August 6, 2010	3.1
3.2	Amended and Restated Bylaws	X			
4.1	Specimen certificate for the common stock		S-1/A	March 22, 1996	4.1
31.1	Rule 13a-14(a)/15d-14(a) certification of principal executive officer	X			
31.2	Rule 13a-14(a)/15d-14(a) certification of principal financial officer	X			
32.1	Section 1350 certification of principal executive officer and principal financial officer	X			
101	The following financial information from KVH Industries, Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 30, 2017, formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Balance Sheets (unaudited), (ii) the Consolidated Statements of Operations (unaudited), (iii) the Consolidated Statements of Comprehensive Income (Loss) (unaudited), (iv) the Consolidated Statements of Cash Flows (unaudited), and (v) the Notes to Consolidated Financial Statements (unaudited).	X			

SIGNATURE

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

Date: November 1, 2017

KVH Industries, Inc.

By: /s/ DONALD W. REILLY

Donald W. Reilly

(Duly Authorized Officer and Chief Financial Officer)

Exhibit Index

Exhibit No.	Description	Filed with this Form 10-Q	Incorporated by Reference		
			Form	Filing Date	Exhibit No.
3.1	Amended and Restated Certificate of Incorporation, as amended		10-Q	August 6, 2010	3.1
3.2	Amended and Restated Bylaws	X			
4.1	Specimen certificate for the common stock		S-1/A	March 22, 1996	4.1
31.1	Rule 13a-14(a)/15d-14(a) certification of principal executive officer	X			
31.2	Rule 13a-14(a)/15d-14(a) certification of principal financial officer	X			
32.1	Section 1350 certification of principal executive officer and principal financial officer	X			
101	The following financial information from KVH Industries, Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 30, 2017, formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Balance Sheets (unaudited), (ii) the Consolidated Statements of Operations (unaudited), (iii) the Consolidated Statements of Comprehensive Income (Loss) (unaudited), (iv) the Consolidated Statements of Cash Flows (unaudited), and (v) the Notes to Consolidated Financial Statements (unaudited).	X			

AMENDED AND RESTATED BY-LAWS
OF
KVH INDUSTRIES, INC.

(As amended February 1, 1996 and May 23, 2001, corrected
on January 16, 2004, and amended on July 26, 2007, April 24, 2014 and November 1, 2017)

SECTION 1. CERTIFICATE OF INCORPORATION AND BY-LAWS

1.1 These by-laws are subject to the certificate of incorporation of the corporation. In these by-laws, references to the certificate of incorporation and by-laws mean the provisions of the certificate of incorporation and the by-laws as are from time to time in effect.

SECTION 2. OFFICES

2.1. Registered Office. The registered office shall be in the city of Wilmington, county of New Castle, state of Delaware.

2.2. Other Offices. The corporation may also have offices at such other places both within and without the state of Delaware as the board of directors may from time to time determine or the business of the corporation may require.

SECTION 3. STOCKHOLDERS

3.1 Location of Meetings. All meetings of the stockholders shall be held at such place either within or without the state of Delaware as shall be designated from time to time by the board of directors. Any adjourned session of any meeting shall be held at the place designated in the vote of adjournment.

3.2 Annual Meeting. The annual meeting of stockholders shall be held at 10:00 a.m. on the first Wednesday in May in each year (unless that day be a legal holiday at the place where the meeting is to be held, in which case the meeting shall be held at the same hour on the next succeeding day not a legal holiday) (the "**Specified Date**"), or at such other date and time as shall be designated from time to time by the board of directors, at which the stockholders shall elect a board of directors and transact such other business as may be required by law or these by-laws or as may properly come before the meeting.

3.3 Special Annual Meeting in Place of Annual Meeting. If the election for directors shall not be held on the day designated by these by-laws, the directors shall cause the election to be held as soon thereafter as convenient, and to that end, if the annual meeting is omitted on the day herein provided therefor or if the election of directors shall not be held thereat, a special meeting of the stockholders may be held in place of such omitted meeting or election, and any business transacted or election held at such special meeting shall have the same effect as if transacted or held at the annual meeting, and in such case all references in these by-laws to the annual meeting of the stockholders, or to the annual election of directors, shall be deemed to refer to or include such special meeting. Any such special meeting shall be called and the purposes thereof shall be specified in the call, as provided in Section 3.4.

3.4 Notice of Annual Meeting. Written notice of the annual meeting stating the place, date and hour of the meeting shall be given to each stockholder entitled to vote at such meeting not less than ten nor more than sixty days before the date of the meeting. Such notice may specify the business to be transacted and actions to be taken at such meeting. No action shall be taken at such meeting unless such notice is given, or unless waiver of such notice is given by the holders of outstanding stock having not less than the minimum number of votes necessary to take such action at a meeting at which all shares entitled to vote thereon were voted. Prompt notice of all action taken in connection with such waiver of notice shall be given to all stockholders not present or represented at such meeting.

3.5 Other Special Meetings. Special meetings of the stockholders, for any purpose or purposes, unless otherwise prescribed by law or by the certificate of incorporation, may be called by the president and shall be called by the president or secretary at the request in writing of a majority of the board of directors. Such request shall state the purpose or purposes of the proposed meeting and business to be transacted at any special meeting of the stockholders. Business transacted at any special meeting of stockholders shall be limited to matters relating to the purpose or purposes stated in the notice of meeting.

3.6 Notice of Special Meeting. Written notice of a special meeting stating the place, date and hour of the meeting and the purpose or purposes for which the meeting is called, shall be given not less than ten nor more than sixty days before the date of the meeting, to each stockholder entitled to vote at such meeting. No action shall be taken at such meeting unless such notice is given, or unless waiver of such notice is given by the holders of outstanding stock having not less than the minimum number of votes necessary to take such action at a meeting at which all shares entitled to vote thereon were voted. Prompt notice of all action taken in connection with such waiver of notice shall be given to all stockholders not present or represented at such meeting.

3.7 Notice of Stockholder Business at Annual Meeting. The following provisions of this Section 3.7 shall apply to the conduct of business at any annual meeting of the stockholders. (As used in this Section 3.7, the term annual meeting shall include a special meeting in lieu of an annual meeting.)

(a) At any annual meeting of the stockholders, only such business shall be conducted as shall have been brought before the meeting (i) pursuant to the corporation’s notice of meeting, (ii) by or at the direction of the board of directors or (iii) by any stockholder of the corporation who is a stockholder of record both at the time of giving of the notice provided for in paragraph (b) of this Section 3.7 and of such meeting, who shall be entitled to vote at such meeting and who complies with the notice procedures set forth in paragraph (b) of this Section 3.7.

(b) For business to be properly brought before any annual meeting of the stockholders by a stockholder pursuant to clause (iii) of paragraph (a) of this Section 3.7, the stockholder must have given timely notice thereof in writing to the Secretary of the corporation. To be timely, a stockholder's notice must be delivered to or mailed and received at the principal executive offices of the corporation not later than the close of business on the 90th day prior to the Specified Date nor earlier than the 120th day prior to the Specified Date, regardless of any postponements, deferrals or adjournments of that meeting to a later date; provided, however, that if the annual meeting of stockholders is to be held on a date prior to the Specified Date, and if less than one hundred five (105) days' notice or prior public disclosure of the date of such annual or special meeting is given or made, notice by the stockholder to be timely must be so delivered or received not later than the close of business on the tenth (10th) day following the earlier of the date on which notice of the date of such meeting was mailed or the day on which public disclosure was made of the date of such meeting. A stockholder's notice to the Secretary shall set forth as to each matter the stockholder proposes to bring before the annual meeting (i) a brief description of the business desired to be brought before the meeting and the reasons for conducting such business at the meeting, (ii) the text of the proposal (including the exact text of any resolutions proposed for consideration and, if such business includes a proposal to amend these by-laws, the exact text of the proposed amendment), (iii) the name and address, as they appear on the corporation's books, of the stockholder proposing such business, the name and address of the beneficial owner, if any, on whose behalf the proposal is made, and the name and address of any other stockholders or beneficial owners known by such stockholder to be supporting such proposal, (iv) the class and number of shares of the corporation which are owned beneficially and of record by such stockholder of record, by the beneficial owner, if any, on whose behalf the proposal is made and by any other stockholders or beneficial owners known by such stockholder to be supporting such proposal, (v) any material interest of such stockholder of record and/or of the beneficial owner, if any, on whose behalf the proposal is made and any affiliate or associate of such person, in such proposed business and any material interest of any other stockholders or beneficial owners known by such stockholder to be supporting such proposal in such proposed business, to the extent known by such stockholder and (vi) a description of any agreement, arrangement or understanding (whether or not in writing, and including any derivative or short positions, profit interests, options, hedging transactions, and borrowed or loaned shares, regardless of whether settled in shares or cash) that has been entered into by or on behalf of such stockholder or beneficial owner, the effect or intent of which is to mitigate loss, manage risk or benefit from changes in the price of any class of the corporation's capital stock, or increase or decrease the voting power of the stockholder or beneficial owner with respect to shares of stock of the corporation, including the notional number of shares that are the subject of such agreement, arrangement or understanding.

(c) Even if a stockholder shall have given timely and proper notice of business proposed to be conducted at such annual meeting in accordance with the provisions of these by-laws, if the stockholder does not appear or send a qualified representative to propose such business at the annual meeting, such proposed business shall not be transacted, notwithstanding that proxies in respect of such proposed business may have been received. To be considered a "qualified representative" of the stockholder, a person must be a duly authorized officer, manager or partner of such stockholder or authorized by a writing executed by such stockholder (or a reliable reproduction or electronic transmission of the writing) delivered to the corporation prior to the making of such proposal at such meeting by such stockholder stating that such person is authorized to act for such stockholder as proxy at the meeting of stockholders.

(d) Notwithstanding anything in these by-laws to the contrary, no business shall be conducted at an annual meeting except in accordance with the procedures set forth in this Section 3.7. The person presiding at the annual meeting shall, if the facts warrant, determine that business was not properly brought before the meeting and in accordance with the procedures prescribed by these by-laws, and if he should so determine, he shall so declare at the meeting and any such business not properly brought before the meeting shall not be transacted. Notwithstanding the foregoing provisions of this Section 3.7, a stockholder shall also comply with all applicable requirements of the Securities Exchange Act of 1934, as amended (or any successor provision, the "Exchange Act"), and the rules and regulations thereunder with respect to the matters set forth in this Section 3.7.

(e) This provision shall not prevent the consideration and approval or disapproval at an annual meeting of reports of officers, Directors and committees of the board of directors, but, in connection with such reports, no new business shall be acted upon at such meeting unless properly brought before the meeting as herein provided.

(f) For purposes of these by-laws: "public disclosure" shall mean disclosure in a press release reported by the Dow Jones News Service, Associated Press or comparable national news service or in a document publicly filed by the corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Exchange Act; the term "affiliate" shall have the meaning set forth in Rule 12b-2 under the Exchange Act; the term "associate" shall have the meaning set forth in Rule 14a-1(a) under the Exchange Act; and shares shall be treated as "beneficially owned" by a person if the person beneficially owns such shares, directly or indirectly, for purposes of Section 13(d) of the Exchange Act and Regulations 13D and 13G thereunder.

3.8 Stockholder List. The officer who has charge of the stock ledger of the corporation shall prepare and make, at least ten days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting, during ordinary business hours, for a period of at least ten days prior to the meeting, either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting, or, if not so specified, at the place where the meeting is to be held. The list shall also be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present.

3.9 Quorum of Stockholders. The holders of a majority of the stock issued and outstanding and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders for the transaction of business except as otherwise required by law, or by the certificate of incorporation or by these by-laws. Except as otherwise provided by law, no stockholder present at a meeting may withhold his shares from the quorum count by declaring his shares absent from the meeting.

3.10 Adjournment. Any meeting of stockholders may be adjourned from time to time to any other time and to any other place at which a meeting of stockholders may be held under these by-laws, which time and place shall be announced at the meeting, by a majority of votes cast upon the question, whether or not a quorum is present. At such adjourned meeting at which a quorum shall be present or represented any business may be transacted which might have been transacted at the original meeting. If the adjournment is for more than thirty days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

3.11 Proxy Representation. Every stockholder may authorize another person or persons to act for him by proxy in all matters in which a stockholder is entitled to participate, whether by waiving notice of any meeting, objecting to or voting or participating at a meeting, or expressing consent or dissent without a meeting. Every proxy must be signed by the stockholder or by his attorney-in-fact. No proxy shall be voted or acted upon after three years from its date unless such proxy provides for a longer period. Except as provided by law, a revocable proxy shall be deemed revoked if the stockholder is present at the meeting for which the proxy was given. A duly executed proxy shall be irrevocable if it states that it is irrevocable and, if, and only as long as, it is coupled with an interest sufficient in law to support an irrevocable power. A proxy may be made irrevocable regardless of whether the interest with which it is coupled is an interest in the stock itself or an interest in the corporation generally. The authorization of a proxy may but need not be limited to specified action, provided, however, that if a proxy limits its authorization to a meeting or meetings of stockholders, unless otherwise specifically provided such proxy shall entitle the holder thereof to vote at any adjourned session but shall not be valid after the final adjournment thereof.

3.12 Inspectors. The directors or the person presiding at the meeting may, but need not, appoint one or more inspectors of election and any substitute inspectors to act at the meeting or any adjournment thereof. Each inspector, before entering upon the discharge of his duties, shall take and sign an oath faithfully to execute the duties of inspector at such meeting with strict impartiality and according to the best of his ability. The inspectors, if any, shall determine the number of shares of stock outstanding and the voting power of each, the shares of stock represented at the meeting, the existence of a quorum and the validity and effect of proxies, and shall receive votes, ballots or consents, hear and determine all challenges and questions arising in connection with the right to vote, count and tabulate all votes, ballots or consents, determine the result, and do such acts as are proper to conduct the election or vote with fairness to all stockholders. On request of the person presiding at the meeting, the inspectors shall make a report in writing of any challenge, question or matter determined by them and execute a certificate of any fact found by them.

3.13 Action by Vote. When a quorum is present at any meeting of stockholders, any question before such meeting (other than an election of a director or directors) shall be decided by a majority of the votes properly cast for and against such matter, except where a larger vote is required by law, the certificate of incorporation or these by-laws. When a quorum is present at any meeting of stockholders at which one or more directors are to be elected, whether the same be an original or an adjourned session, each director shall be elected by a majority of the votes properly cast on the election of the director, provided that, if the Secretary determines that, as of the date that is ten (10) days before the date on which the corporation files with the Securities and Exchange Commission its definitive proxy statement for such meeting of stockholders (regardless of whether thereafter revised or supplemented), the number of nominees for director exceeds the number of directors to be elected, the directors shall be elected by a plurality of the votes properly cast on the election of directors. For purposes of this Section 3.13, a majority of the votes properly cast on the election of a director or any other matter means that the number of votes properly cast “for” the election of the director or such other matter exceeds the number of votes properly cast “against” the election of the director or such other matter. The following shall not be votes cast: (a) a share otherwise present at the meeting but for which there is an abstention and (b) a share otherwise present at the meeting as to which a stockholder gives no authority or direction. If directors are to be elected by a plurality of the votes properly cast, stockholders shall not be permitted to vote against a nominee. No ballot shall be required for any election unless requested by a stockholder present or represented at the meeting and entitled to vote in the election.

3.14 No Action by Consent. Any action required or permitted to be taken by the stockholders of the corporation must be effected at a duly constituted annual or special meeting of such stockholders and may not be effected by any consent in writing by such stockholders.

SECTION 4. DIRECTORS

4.1 Number. The number of directors which shall constitute the whole board shall not be less than three nor more than seven. Within the foregoing limits, the number of directors shall be determined by resolution of the board of directors and may be increased or decreased at any time or from time to time by the directors by vote of a majority of directors then in office, except that any such decrease by vote of the directors shall only be made to eliminate vacancies existing by reason of the death, resignation or removal of one or more directors. The directors shall be elected at the annual meeting of the stockholders, except as provided in Section 4.7 of these by-laws. Directors need not be stockholders.

4.2 Tenure. Except as otherwise provided by law, by the certificate of incorporation or by these by-laws, each director shall hold office until the next annual meeting and until his successor is elected and qualified, or until he sooner dies, resigns, is removed or becomes disqualified.

4.3 Classes of Directors. The board of directors shall be and is divided into three classes: Class I, Class II and Class III. No one class shall have more than one director more than any other class. If a fraction is contained in the quotient arrived at by dividing the designated number of directors by three, then, if such fraction is one-third, the extra director shall be a member of Class III, and if such fraction is two-thirds, one of the extra directors shall be a member of Class II and one of the extra directors shall be a member of Class III, unless otherwise provided from time to time by resolution adopted by the board of directors.

4.4 Terms of Office. Each director shall serve for a term ending on the date of the third annual meeting following the annual meeting at which such director was elected; provided, that each initial director in Class I shall serve for a term ending on the date of the annual meeting in 1997; each initial director in Class II shall serve for a term ending on the date of the annual meeting in 1998; and each initial director in Class III shall serve for a term ending on the date of the annual meeting in 1999; and provided further, that the term of each director shall be subject to the election and qualification of his successor and to his earlier death, resignation or removal.

4.5 Allocation of Directors Among Classes in the Event of Increases or Decreases in the Number of Directors. In the event of any increase or decrease in the authorized number of directors, (i) each director then serving as such shall nevertheless continue as a director of the class of which he is a member and (ii) the newly created or eliminated directorships resulting from such increase or decrease shall be apportioned by the board of directors among the three classes of directors so as to ensue that no one class has more than one director more than any other class. To the extent possible, consistent with the foregoing rule, any newly created directorships shall be added to those classes whose terms of office are to expire at the latest dates following such allocation, and any newly eliminated directorships shall be subtracted from those classes whose terms of offices are to expire at the earliest dates following such allocation, unless otherwise provided from time to time by resolution adopted by the board of directors.

4.6 Powers. The business of the corporation shall be managed by or under the direction of the board of directors which shall have and may exercise all the powers of the corporation and do all such lawful acts and things as are not by law, the certificate of incorporation or these by-laws directed or required to be exercised or done by the stockholders.

4.7 Vacancies. Any vacancy in the board of directors, however occurring, including a vacancy resulting from an enlargement of the board, shall be filled only by a vote of a majority of the directors then in office, although less than a quorum, or by a sole remaining director. A director elected to fill a vacancy shall be elected to hold office until the next election of the class for which such director shall have been chosen, subject to the election and qualification of his successor and to his earlier death, resignation or removal. The directors shall have and may exercise all their powers notwithstanding the existence of one or more vacancies in their number, subject to any requirements of law or of the certificate of incorporation or of these by-laws as to the number of directors required for a quorum or for any vote or other actions.

4.8 Nomination of Directors.

The following provisions of this Section 4.8 shall apply to the nomination of persons for election to the board of directors. (As used in this Section 4.8, the term annual meeting shall include a special meeting in lieu of an annual meeting.)

(a) Nominations of persons for election to the board of directors of the corporation may be made only (i) by or at the direction of the board of directors or (ii) at any annual meeting by any stockholder of the corporation who is a stockholder of record both at the time of giving of notice provided for in paragraph (b) of this Section 4.8 and of such meeting, who shall be entitled to vote for the election of Directors at the meeting and who complies with the notice procedures set forth in paragraph (b) of this Section 4.8.

(b) Nominations by stockholders shall be made pursuant to timely notice in writing to the Secretary of the corporation. To be timely, a stockholder's notice shall be delivered to or mailed and received at the principal executive offices of the corporation not later than the close of business on the 90^{th} day prior to the Specified Date nor earlier than the 120^{th} day prior to the Specified Date, regardless of any postponements, deferrals or adjournments of that meeting to a later date; provided, however, that if the annual meeting of stockholders or a special meeting in lieu thereof is to be held on a date prior to the Specified Date, and if less than one hundred five (105) days' notice or prior public disclosure of the date of such annual or special meeting is given or made, notice by the stockholder to be timely must be so delivered or received not later than the close of business on the tenth (10th) day following the earlier of the day on which notice of the date of such annual or special meeting was mailed or the day on which public disclosure was made of the date of such annual or special meeting. Such stockholder's notice shall set forth (i) as to each person whom the stockholder proposes to nominate for election or reelection as a Director all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors, or is otherwise required, pursuant to Regulation 14A under the Exchange Act, or pursuant to any other then existing statute, rule or regulation applicable thereto (including such person's written consent to being named in the proxy statement as a nominee and to serving as a Director if elected) and a description of any agreement, arrangement or understanding (other than with the corporation) relating to any direct or indirect compensation, reimbursement or indemnification in connection with such person's service or action as a nominee or director, (ii) as to the stockholder giving the notice (1) the name and address, as they appear on the corporation's books, of such stockholder and (2) the class and number of shares of the corporation which are beneficially owned by such stockholder and also which are owned of record by such stockholder; (iii) as to the beneficial owner, if any, on whose behalf the nomination is made, (1) the name and address of such person and (2) the class and number of shares of the corporation which are beneficially owned by such person, (iv) as to any other stockholders or beneficial owners known by such stockholder to be supporting such nominee, (1) the name and address of such person and (2) the class and number of shares of the corporation which are beneficially owned by such person and (v) a description of any agreement, arrangement or understanding (whether or not in writing, and including any derivative or short positions, profit interests, options, hedging transactions, and borrowed or loaned shares, regardless of whether settled in shares or cash) that has been entered into by or on behalf of such stockholder or beneficial owner, the effect or intent of which is to mitigate loss, manage risk or benefit from changes in the price of any class of the corporation's capital stock, or increase or decrease the voting power of the stockholder or beneficial owner with respect to shares of stock of the corporation, including the notional number of shares that are the subject of such agreement, arrangement or understanding. The corporation may require any proposed nominee to furnish such other information as may reasonably be required by the corporation to determine the eligibility of such proposed nominee as a Director. At the request of the board of directors, any person nominated by the board of directors for election as a Director shall furnish to the Secretary of the corporation that information required to be set forth in a stockholder's notice of nomination which pertains to the nominee.

(c) No person shall be eligible to serve as a Director of the corporation unless nominated in accordance with the procedures set forth in this Section 4.8. The person presiding at the meeting shall, if the facts warrant, determine that a nomination was not made in accordance with the procedures prescribed by these by-laws, and if he should so determine, he shall so declare to the meeting and the defective nomination shall be disregarded. Notwithstanding the foregoing provisions of this Section 4.8, a stockholder shall also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder with respect to the matters set forth in this Section 4.8.

(d) Even if a stockholder shall have given timely and proper notice of a nomination to be made at such annual meeting in accordance with the provisions of these by-laws, if the stockholder does not appear or send a qualified representative to make the nomination at the annual meeting, such nomination shall be disregarded, notwithstanding that proxies in respect of such nomination may have been received. To be considered a "qualified representative" of the stockholder, a person must be a duly authorized officer, manager or partner of such stockholder or authorized by a writing executed by such stockholder (or a reliable reproduction or electronic transmission of the writing) delivered to the corporation prior to the making of such nomination at such meeting by such stockholder stating that such person is authorized to act for such stockholder as proxy at the meeting of stockholders.

4.9 Committees. The board of directors may, by vote of a majority of the whole board, (a) designate, change the membership of or terminate the existence of any committee or committees, each committee to consist of one or more of the directors; (b) designate one or more directors as alternate members of any such committee who may replace any absent or disqualified member at any meeting of the committee; and (c) determine the extent to which each such committee shall have and may exercise the powers and authority of the board of directors in the management of the business and affairs of the corporation, including the power to authorize the seal of the corporation to be affixed to all papers which require it and the power and authority to declare dividends or to authorize the issuance of stock; excepting, however, such powers which by law, by the certificate of incorporation or by these by-laws they are prohibited from so delegating. In the absence or disqualification of any member of such committee and his alternate, if any, the member or members thereof present at any meeting and not disqualified from voting, whether or not constituting a quorum, may unanimously appoint another member of the board of directors to act at the meeting in the place of any such absent or disqualified member. Except as the board of directors may otherwise determine, any committee may make rules for the conduct of its business, but unless otherwise provided by the board or such rules, its business shall be conducted as nearly as may be in the same manner as is provided by these bylaws for the conduct of business by the board of directors. Each committee shall keep regular minutes of its meetings and report the same to the board of directors upon request.

4.10 Regular Meeting. Regular meetings of the board of directors may be held without call or notice at such place within or without the state of Delaware and at such times as the board may from time to time determine, provided that notice of the first regular meeting following any such determination shall be given to absent directors. A regular meeting of the directors may be held without call or notice immediately after and at the same place as the annual meeting of the stockholders.

4.11 Special Meetings. Special meetings of the board of directors may be held at any time and at any place within or without the state of Delaware designated in the notice of the meeting, when called by the chairman, the president or by one third or more in number of the directors, reasonable notice thereof being given to each director by the secretary, the chairman, the president or by any one of the directors calling the meeting.

4.12 Notice. It shall be reasonable and sufficient notice to a director to send notice by mail at least forty-eight hours or by telegram at least twenty-four hours before the meeting, addressed to him at his usual or last known business or residence address or to give notice to him in person or by telephone at least twenty-four hours before the meeting. Notice of a meeting need not be given to any director if a written waiver of notice, executed by him before or after the meeting, is filed with the records of the meeting, or to any director who attends the meeting without protesting prior thereto or at its commencement the lack of notice to him. Neither notice of a meeting nor a waiver of a notice need specify the purposes of the meeting.

4.13 Quorum. A majority of the directors at any time in office shall constitute a quorum for the transaction of business. In the event one or more of the directors shall be disqualified to vote at any meeting, then the required quorum shall be reduced by one for each director so disqualified, provided that in no case shall less than one-third of the number of directors fixed pursuant to Section 1 above constitute a quorum. If at any meeting of the board of directors there shall be less than such a quorum, a majority of those present may adjourn the meeting from time to time.

4.14 Action by Vote. Every act or decision done or made by a majority of the directors present at a meeting duly held at which a quorum is present shall be regarded as the act of the board of directors unless a greater number is required by law, by these by-laws or by the Amended and Restated Certificate of Incorporation of the corporation.

4.15 Action Without a Meeting. Unless otherwise restricted by the certificate of incorporation or these by-laws, any action required or permitted to be taken at any meeting of the board of directors or of any committee thereof may be taken without a meeting if all the members of the board or of such committee, as the case may be, consent thereto in writing, and such writing or writings are filed with the records of the meetings of the board or of such committee. Such consent shall be treated for all purposes as the act of the board or of such committee, as the case may be.

4.16 Participation in Meetings by Conference Telephone. Unless otherwise restricted by the certificate of incorporation or these by-laws, members of the board of directors or of any committee thereof, may participate in a meeting of such board or committee by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other. Such participation shall constitute presence in person at such meeting.

4.17 Compensation. Unless otherwise restricted by the certificate of incorporation or these by-laws, the board of directors shall have the authority to fix from time to time the compensation of directors. The directors may be paid their expenses, if any, of attendance at each meeting of the board of directors and the performance of their responsibilities as directors and may be paid a fixed sum for attendance at each meeting of the board of directors and/or a stated salary as director. No such payment shall preclude any director from serving the corporation or its parent or subsidiary corporations in any other capacity and receiving compensation therefor. The board of directors may also allow compensation for members of special or standing committees for service on such committees.

4.18 Interested Directors and Officers.

(a) No contract or transaction between the corporation and one or more of its directors or officers, or between the corporation and any other corporation, partnership, association, or other organization in which one or more of the corporation's directors or officers are directors or officers, or have a financial interest, shall be void or voidable solely for this reason, or solely because the director or officer is present at or participates in the meeting of the board or committee thereof which authorizes the contract or transaction, or solely because his or their votes are counted for such purpose, if:

(1) The material facts as to his relationship or interest and as to the contract or transaction are disclosed or are known to the board of directors or the committee, and the board or committee in good faith authorizes the contract or transaction by the affirmative votes of a majority of the disinterested directors, even though the disinterested directors be less than a quorum; or

(2) The material facts as to his relationship or interest and as to the contract or transaction are disclosed or are known to the stockholders entitled to vote thereon, and the contract or transaction is specifically approved in good faith by vote of the stockholders; or

(3) The contract or transaction is fair as to the corporation as of the time it is authorized, approved or ratified, by the board of directors, a committee thereof, or the stockholders.

(b) Common or interested directors may be counted in determining the presence of a quorum at a meeting of the board of directors or of a committee which authorizes the contract or transaction.

4.19 Resignation or Removal of Directors. Directors of the corporation may be removed only for cause by the affirmative vote of the holders of at least two-thirds of the shares of the capital stock of the corporation issued and outstanding and entitled to vote. Any director may resign at any time by delivering his resignation in writing to the chairman, the president or the secretary or to a meeting of the board of directors. Such resignation shall be effective upon receipt unless specified to be effective at some other time; and without in either case the necessity of its being accepted unless the resignation shall so state. No director resigning and (except where a right to receive compensation shall be expressly provided in a duly authorized written agreement with the corporation) no director removed shall have any right to receive compensation as such director for any period following his resignation or removal, or any right to damages on account of such removal, whether his compensation be by the month or by the year or otherwise; unless in the case of a resignation, the directors, or in the case of removal, the body acting on the removal, shall in their or its discretion provide for compensation.

SECTION 5. NOTICES

5.1 Form of Notice. Whenever, under the provisions of law, or of the certificate of incorporation or of these by-laws, notice is required to be given to any director or stockholder, such notice may be given by mail, addressed to such director or stockholder, at his address as it appears on the records of the corporation, with postage thereon prepaid, and such notice shall be deemed to be given at the time when the same shall be deposited in the United States mail. Unless written notice by mail is required by law, written notice may also be given by telegram, cable, telecopy, commercial delivery service, telex or similar means, addressed to such director or stockholder at his address as it appears on the records of the corporation, in which case such notice shall be deemed to be given when delivered into the control of the persons charged with effecting such transmission, the transmission charge to be paid by the corporation or the person sending such notice and not by the addressee. Oral notice or other in-hand delivery (in person or by telephone) shall be deemed given at the time it is actually given.

5.2 Waiver of Notice. Whenever notice is required to be given under the provisions of law, the certificate of incorporation or these by-laws, a written waiver thereof, signed by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any meeting of the stockholders, directors or members of a committee of the directors need be specified in any written waiver of notice.

SECTION 6. OFFICERS AND AGENTS

6.1 Enumeration: Qualification. The officers of the corporation shall be a chairman, a president, a treasurer, a chief financial officer, a secretary and such other officers, if any, as the board of directors from time to time may in its discretion elect or appoint including without limitation one or more vice presidents. Any officer may be, but none need be, a director or stockholder. Any two or more offices may be held by the same person. Any officer may be required by the board of directors to secure the faithful performance of his duties to the corporation by giving bond in such amount and with sureties or otherwise as the board of directors may determine.

6.2 Powers. Subject to law, to the certificate of incorporation and to the other provisions of these by-laws, each officer shall have, in addition to the duties and powers herein - set forth, such duties and powers as are commonly incident to his office and such additional duties and powers as the board of directors may from time to time designate.

6.3 Election. The board of directors at its first meeting after each annual meeting of stockholders shall choose a president, a secretary, a treasurer and, from one of its number, a chairman. Other officers may be appointed by the board of directors at such meeting, at any other meeting or by written consent. At any time or from time to time, the directors may delegate to any officer their power to elect or appoint any other officer or any agents.

6.4 Tenure. Each officer shall hold office until the first meeting of the board of directors following the next annual meeting of the stockholders and until his successor is elected and qualified unless a shorter period shall have been specified in terms of his election or appointment, or in each case until he sooner dies, resigns is removed or becomes disqualified. Each agent of the corporation shall retain his authority at the pleasure of the directors, or the officer by whom he was appointed or by the officer who then holds agent appointive power.

6.5 President and Vice Presidents; Chairman. The president shall be the chief executive officer and shall have general supervision of the entire business of the corporation, subject to the control of the board of directors, and shall have such other duties and powers as shall be designated from time to time by the board of directors. The chairman shall preside at all meetings of the stockholders, except as otherwise voted by the board of directors. In the absence of the chairman, the president shall preside at all meetings of the stockholders, except as otherwise voted by the board of directors. The president or treasurer shall execute bonds, mortgages and other contracts requiring a seal, under the seal of the corporation, except where required or permitted by law to be otherwise signed and executed and except where the signing and execution thereof shall be expressly delegated by the board of directors to some other officer or agent of the corporation. Any vice presidents shall have such duties and powers as shall be designated from time to time by the board of directors or the president.

6.6 Chief Financial Officer, Treasurer and Assistant Treasurers. The chief financial officer shall be the principal financial officer of the corporation and shall be responsible for the corporation’s financial reports. The treasurer shall be in charge of its funds and shall be in charge of the corporation’s valuable papers, and shall have such other duties and powers as may be assigned to such officer from time to time by the board of directors or the president. Any assistant treasurers shall have such duties and powers as shall be designated from time to time by the board of directors, the president or the treasurer.

6.7 Secretary and Assistant Secretaries. The secretary shall record all proceedings of the stockholders, of the board of directors and of committees of the board of directors in a book or series of books to be kept therefor and shall file therein all writings of, or related to, action by stockholder or director consent. In the absence of the secretary from any meeting, an assistant secretary, or if there be none or he is absent, a temporary secretary chosen at the meeting, shall record the proceedings thereof. Unless a transfer agent has been appointed, the secretary shall keep or cause to be kept the stock and transfer records of the corporation, which shall contain the names and record addresses of all stockholders and the number of shares registered in the name of each stockholder. He shall have such other duties and powers as may from time to time be designated by the board of directors or the president. Any assistant secretaries shall have such duties and powers as shall be designated from time to time by the board of directors, the president or the secretary.

6.8 Resignation and Removal. Any officer may resign at any time by delivering his resignation in writing to the chairman, the president or the secretary or to a meeting of the board of directors. Such resignation shall be effective upon receipt unless specified to be effective at some other time, and without in any case the necessity of its being accepted unless the resignation shall so state. The board of directors may at any time remove any officer either with or without cause. The board of directors may at any time terminate or modify the authority of any agent. No officer resigning and (except where a right to receive compensation shall be expressly provided in a duly authorized written agreement with the corporation) no officer removed shall have any right to any compensation as such officer for any period following his resignation or removal, or any right to damages on account of such removal, whether his compensation be by the month or by the year or otherwise; unless in the case of a resignation, the directors, or in the case of removal, the body acting on the removal, shall in their or its discretion provide for compensation.

6.9 Vacancies. If the office of the chairman or the president or the treasurer or the secretary becomes vacant, the directors may elect a successor by vote of a majority of the directors then in office. If the office of any other officer becomes vacant, any person or body empowered to elect or appoint that office may choose a successor. Each such successor shall hold office for the unexpired term of his predecessor, and in the case of the chairman, the president, the treasurer and the secretary until his successor is chosen and qualified, or in each case until he sooner dies, resigns, is removed or becomes disqualified.

SECTION 7. CAPITAL STOCK

7.1 Stock Certificates. The shares of the corporation's stock shall either be represented by certificates or shall be uncertificated. In the event that shares of the corporation's stock are represented by certificates, such certificates shall be in such form as shall, in conformity to law, the certificate of incorporation and the by-laws, be prescribed from time to time by the board of directors. Each stockholder, upon written request to the transfer agent or registrar of the Corporation, shall be entitled to a certificate stating the number and the class and the designation of the series, if any, of the shares held by him. Such certificates shall be signed by the president or a vice-president and (i) the treasurer or an assistant treasurer or (ii) the secretary or an assistant secretary. Any of or all the signatures on the certificate may be a facsimile. In case an officer, transfer agent, or registrar who has signed or whose facsimile signature has been placed on such certificate shall have ceased to be such officer, transfer agent, or registrar before such certificate is issued, it may be issued by the corporation with the same effect as if he were such officer, transfer agent, or registrar at the time of its issue. There shall be no differences in the rights and obligations of the stockholders based on whether or not their shares are represented by certificates.

7.2 Lost Certificates. The board of directors may direct a new certificate or certificates to be issued in place of any certificate or certificates theretofore issued by the corporation alleged to have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the person claiming the certificate of stock to be lost, stolen or destroyed. When authorizing such issue of a new certificate or certificates, the board of directors may, in its discretion and as a condition precedent to the issuance thereof, require the owner of such lost, stolen or destroyed certificate or certificates, or his legal representative, to advertise the same in such manner as it shall require and/or to give the corporation a bond in such sum as it may direct as indemnity against any claim that may be made against the corporation with respect to the certificate alleged to have been lost, stolen or destroyed.

SECTION 8. TRANSFER OF SHARES OF STOCK

8.1 Transfer on Books. Subject to any restrictions with respect to the transfer of shares of stock, (a) shares of stock represented by certificates may be transferred on the books of the corporation by the surrender to the corporation or its transfer agent of the certificate therefor properly endorsed or accompanied by a written assignment and power of attorney properly executed, with necessary transfer stamps affixed, and with such proof of the authenticity of signature as the board of directors or the transfer agent of the corporation may reasonably require and (b) uncertificated shares may be transferred by the registered holder thereof or by such holder's attorney thereunto authorized by power of attorney duly executed and filed with the secretary of the corporation. Except as may be otherwise required by law, by the certificate of incorporation or by these by-laws, the corporation shall be entitled to treat the record holder of stock as shown on its books as the owner of such stock for all purposes, including the payment of dividends and the right to receive notice and to vote or to give any consent with respect thereto and to be held liable for such calls and assessments, if any, as may lawfully be made thereon, regardless of any transfer, pledge or other disposition of such stock until the shares have been properly transferred on the books of the corporation. It shall be the duty of each stockholder to notify the corporation of his post office address.

SECTION 9. GENERAL PROVISIONS

9.1 Record Date. In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or to express consent to corporate action in writing without a meeting, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the board of directors may fix, in advance, a record date, which shall not be more than sixty days nor less than ten days before the date of such meeting, nor more than sixty days prior to any other action to which such record date relates. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the board of directors may fix a new record date for the adjourned meeting. If no record date is fixed,

(a) The record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held;

(b) The record date for determining stockholders entitled to express consent to corporate action in writing without a meeting, when no prior action by the board of directors is necessary, shall be the day on which the first written consent is expressed; and

(c) The record date for determining stockholders for any other purpose shall be at the close of business on the day on which the board of directors adopts the resolution relating to such purpose.

9.2 Dividends. Dividends upon the capital stock of the corporation may be declared by the board of directors at any regular or special meeting or by written consent, pursuant to law. Dividends may be paid in cash, in property, or in shares of the capital stock, subject to the provisions of the certificate of incorporation.

9.3 Payment of Dividends. Before payment of any dividend, there may be set aside out of any funds of the corporation available for dividends such sum or sums as the directors from time to time, in their absolute discretion, think proper as a reserve or reserves to meet contingencies, or for equalizing dividends, or for repairing or maintaining any property of the corporation, or for such other purpose as the directors shall think conducive to the interest of the corporation, and the directors may modify or abolish any such reserve in the manner in which it was created.

9.4 Checks. All checks or demands for money and notes of the corporation shall be signed by such officer or officers or such other person or persons as the board of directors may from time to time designate.

9.5 Fiscal year. The fiscal year of the corporation shall begin on the first day of January in each year and shall end on the last day of December next following, unless otherwise determined by the board of directors.

9.6 Seal. The board of directors may, by resolution, adopt a corporate seal. The corporate seal shall have inscribed thereon the name of the corporation, the year of its organization and the word “Delaware.” The seal may be used by causing it or a facsimile thereof to be impressed or affixed or reproduced or otherwise. The seal may be altered from time to time by the board of directors.

SECTION 10. INDEMNIFICATION

10.1 It being the intent of the corporation to provide maximum protection available under the law to its officers, directors, employees and agents, the corporation shall indemnify its officers, directors, employees and agents to the full extent the corporation is permitted or required to do so by the General Corporation Law of Delaware.

SECTION 11. AMENDMENTS

11.1 By the Board of Directors. Except as otherwise provided in Section 12, these by-laws may be altered, amended or repealed or new by-laws may be adopted by the affirmative vote of a majority of the directors present at any regular or special meeting of the board of directors at which a quorum is present.

11.2 By the Stockholders. Except as otherwise provided in Section 11.3, these by-laws may be altered, amended or repealed or new by-laws may be adopted by the affirmative vote of a majority of the shares of capital stock of the corporation issued and outstanding and entitled to vote at any regular or special meeting of stockholders, provided notice of such alteration, amendment, repeal or adoption of new by-laws shall have been stated in the notice of such regular or special meeting.

11.3 Certain Limitations. Notwithstanding any other provision of these by-laws, and notwithstanding the fact that a lesser percentage may be specified by law, the affirmative vote of the holders of at least seventy-five percent (75%) of the shares of the capital stock of the corporation issued and outstanding and entitled to vote shall be required to amend or repeal, or to adopt any provision inconsistent with, Section 3.5, Section 3.7, Section 4 or Section 11 of these by-laws.

SECTION 12. RESTRICTIONS ON SALE OF SECURITIES.

12.1 Restriction on Sale of Securities. Unless approved by the affirmative vote of the holders of a majority of the corporation’s capital stock present and entitled to vote at a duly convened meeting of the corporation’s shareholders, the corporation shall not (i) sell or issue any security of the corporation convertible, exercisable or exchangeable into shares of common stock, for a conversion, exercise or exchange price per share which is subject to adjustment based on the market price of the common stock at the time of conversion, exercise or exchange of such security into common stock; or (ii) enter into any equity line or similar agreement or arrangement, or any agreement to sell common stock at a price which is fixed after the date of the agreement, whether or not based on any predetermined price-setting formula or calculation method.

12.2 Amendment. The provisions of Section 12.1 and this Section 12.2 may not be amended or repealed without the affirmative vote of the holders of a majority of the shares of the corporation’s capital stock present and entitled to vote at a duly convened meeting of the corporation’s shareholders.

Exhibit 31.1

Certification of Principal Executive Officer
Pursuant to Rule 13a-14 or 15d-14 under the Securities Exchange Act of 1934 as Adopted Pursuant to
Section 302 of the Sarbanes-Oxley Act of 2002

I, Martin A. Kits van Heyningen, certify that:

1. I have reviewed this quarterly report on Form 10-Q of KVH Industries, Inc.;

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

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

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

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

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

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

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

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

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

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

Date: November 1, 2017

/s/ Martin A. Kits van Heyningen

Martin A. Kits van Heyningen

President, Chief Executive Officer and

Chairman of the Board

Exhibit 31.2

Certification of Principal Financial Officer
Pursuant to Rule 13a-14 or 15d-14 under the Securities Exchange Act of 1934 as Adopted Pursuant to
Section 302 of the Sarbanes-Oxley Act of 2002

I, Donald W. Reilly, certify that:

1. I have reviewed this quarterly report on Form 10-Q of KVH Industries, Inc.;

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

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

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

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

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

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

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

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

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

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

Date: November 1, 2017

/s/ Donald W. Reilly

Donald W. Reilly

Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. §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 KVH Industries, Inc. (the “Company”) for the quarter ended September 30, 2017, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), each of the undersigned President, Chief Executive Officer and Chairman of the Board, and Chief Financial Officer of the Company, certifies, to his best knowledge and belief, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

	/s/ Martin A. Kits van Heyningen		/s/ Donald W. Reilly
	Martin A. Kits van Heyningen		Donald W. Reilly
	President, Chief Executive Officer and Chairman of the Board		Chief Financial Officer
Date:	November 1, 2017	Date:	November 1, 2017