

KVH INDUSTRIES INC \DE\  
Form 10-Q  
May 02, 2019  
UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended: March 31, 2019

OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_  
Commission File Number 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 ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted 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 such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.  
Large accelerated filer ☐ Accelerated filer ☒  
Non-accelerated filer ☐ Smaller reporting company ☒  
Emerging growth company ☐

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

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

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Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on which Registered
Common Stock, par value \$0.01 per share	KVHI	The NASDAQ Stock Market LLC (NASDAQ Global Select Market)

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
April 30, 2019	Common Stock, par value \$0.01 per share	17,879,814

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## PART I. FINANCIAL INFORMATION

## ITEM 1. Financial Statements

## KVH INDUSTRIES, INC. AND SUBSIDIARIES

## CONSOLIDATED BALANCE SHEETS

(in thousands, except share and per share amounts)

	March 31, 2019 (unaudited)	December 31, 2018
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 14,259	\$ 18,050
Marketable securities	25	25
Accounts receivable, net of allowance for doubtful accounts of \$2,555 and \$2,685 as of March 31, 2019 and December 31, 2018, respectively	28,832	29,663
Inventories	26,062	22,942
Prepaid expenses and other current assets	4,320	3,494
Current contract assets	3,678	3,566
Total current assets	77,176	77,740
Property and equipment, net	53,697	53,248
Intangible assets, net	9,807	10,518
Goodwill	32,845	32,213
Right of use asset operating lease	9,411	—
Other non-current assets	7,021	6,736
Non-current contract assets	7,342	6,971
Non-current deferred income tax asset	210	226
Total assets	\$ 197,509	\$ 187,652
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 20,270	\$ 17,726
Accrued compensation and employee-related expenses	4,249	5,167
Accrued other	10,131	10,964
Accrued product warranty costs	2,021	1,916
Current portion of long-term debt	10,585	9,928
Contract liabilities	12,211	9,193
Current operating lease liability	4,749	—
Liability for uncertain tax positions	1,141	1,116
Total current liabilities	65,357	56,010
Other long-term liabilities	1,752	1,920
Long-term operating lease liability	4,672	—
Long-term contract liabilities	9,634	9,070
Long-term debt, excluding current portion	18,749	19,437
Non-current deferred income tax liability	1,747	1,700
Total liabilities	\$ 101,911	\$ 88,137
Commitments and contingencies (Notes 2, 10, 12, and 19)		
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; 19,134,469 and 19,026,393 shares issued at March 31, 2019 and December 31, 2018, respectively; and 17,852,047 and 17,743,971 shares outstanding at March 31, 2019 and December 31, 2018, respectively	191	190
Additional paid-in capital	140,790	139,617

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Accumulated deficit	(21,576 )	(15,397 )
Accumulated other comprehensive loss	(13,643 )	(14,731 )
	105,762	109,679
Less: treasury stock at cost, common stock, 1,282,422 and 1,282,422 shares as of March 31, 2019 and December 31, 2018, respectively	(10,164 )	(10,164 )
Total stockholders' equity	95,598	99,515
Total liabilities and stockholders' equity	\$ 197,509	\$ 187,652

See accompanying Notes to Unaudited Consolidated Financial Statements.

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KVH INDUSTRIES, INC. AND SUBSIDIARIES  
CONSOLIDATED STATEMENTS OF OPERATIONS

(in thousands, except earnings per share amounts, unaudited)

	Three Months Ended March 31,	
	2019	2018
Sales:		
Product	\$12,874	\$13,992
Service	27,098	26,109
Net sales	39,972	40,101
Costs and expenses:		
Costs of product sales	7,853	8,923
Costs of service sales	16,697	13,816
Research and development	3,868	3,934
Sales, marketing and support	9,303	8,941
General and administrative	8,080	7,667
Total costs and expenses	45,801	43,281
Loss from operations	(5,829 )	(3,180 )
Interest income	175	148
Interest expense	385	409
Other expense, net	(106 )	(274 )
Loss before income tax expense	(6,145 )	(3,715 )
Income tax expense	34	178
Net loss	\$(6,179 )	\$(3,893 )
Net loss per common share		
Basic and diluted	\$(0.36 )	\$(0.23 )
Weighted average number of common shares outstanding:		
Basic and diluted	17,302	16,742

See accompanying Notes to Unaudited Consolidated Financial Statements.

KVH INDUSTRIES, INC. AND SUBSIDIARIES  
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS  
(in thousands, unaudited)

	Three Months Ended March 31,	
	2019	2018
Net loss	\$(6,179)	\$(3,893)
Other comprehensive income, net of tax:		
Unrealized gain on available-for-sale securities	—	1
Foreign currency translation adjustment	1,080	2,444
Unrealized gain on derivative instruments, net	8	22
Other comprehensive income, net of tax <sup>(1)</sup>	1,088	2,467
Total comprehensive loss	\$(5,091)	\$(1,426)

(1) Tax impact was nominal for all periods.

See accompanying Notes to Unaudited Consolidated Financial Statements.

KVH INDUSTRIES, INC. AND SUBSIDIARIES  
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY  
(in thousands, unaudited)

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive (Loss) Income	Treasury Stock		Total Stockholders' Equity
	Shares	Amount				Shares	Amount	
Balance at December 31, 2018	19,026	\$ 190	\$ 139,617	\$ (15,397 )	\$ (14,731 )	(1,282)	\$(10,164)	\$ 99,515
Net loss	—	—	—	(6,179 )	—	—	—	(6,179 )
Other comprehensive income	—	—	—	—	1,088	—	—	1,088
Stock-based compensation	—	—	874	—	—	—	—	874
Issuance of common stock under employee stock purchase plan	23	—	218	—	—	—	—	218
Exercise of stock options and issuance of restricted stock awards, net of forfeitures	85	1	81	—	—	—	—	82
Balance at March 31, 2019	19,134	\$ 191	\$ 140,790	\$ (21,576 )	\$ (13,643 )	(1,282)	\$(10,164)	\$ 95,598

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive (Loss) Income	Treasury Stock		Total Stockholders' Equity
	Shares	Amount				Shares	Amount	
Balance at December 31, 2017	18,788	\$ 188	\$ 134,361	\$ (4,417 )	\$ (11,317 )	(1,659)	\$(13,150)	\$ 105,665
Net loss	—	—	—	(3,893 )	—	—	—	(3,893 )
Other comprehensive income	—	—	—	—	2,467	—	—	2,467
ASC 606 adoption	—	—	—	(2,748 )	—	—	—	(2,748 )
Stock-based compensation	—	—	853	—	—	—	—	853
Sale of treasury stock	—	—	1,478	—	—	377	2,986	4,464
Exercise of stock options and issuance of restricted stock awards, net of forfeitures	16	—	26	—	—	—	—	26
Balance at March 31, 2018	18,804	\$ 188	\$ 136,718	\$ (11,058 )	\$ (8,850 )	(1,282)	\$(10,164)	\$ 106,834

See accompanying Notes to Unaudited Consolidated Financial Statements.



KVH INDUSTRIES, INC. AND SUBSIDIARIES  
CONSOLIDATED STATEMENTS OF CASH FLOWS  
(in thousands, unaudited)

	Three Months Ended March 31,	
	2019	2018
Cash flows from operating activities:		
Net loss	\$(6,179 )	\$(3,893 )
Adjustments to reconcile net loss to net cash used in operating activities:		
Provision for doubtful accounts	(65 )	28
Depreciation and amortization	3,527	3,050
Deferred income taxes	16	9
Loss on disposals of fixed assets	56	—
Compensation expense related to stock-based awards and employee stock purchase plan	874	853
Unrealized currency translation loss	47	40
Changes in operating assets and liabilities:		
Accounts receivable	944	(91 )
Inventories	(3,117 )	(558 )
Prepaid expenses, other current assets and current contract assets	(891 )	(651 )
Other non-current assets and non-current contract assets	(705 )	(836 )
Accounts payable	2,627	1,067
Contract liabilities and long-term contract liabilities	3,526	1,094
Accrued compensation, product warranty and other	(1,719 )	(1,303 )
Other long-term liabilities and long-term operating lease liabilities	(15 )	(6 )
Net cash used in operating activities	\$(1,074 )	\$(1,197 )
Cash flows from investing activities:		
Capital expenditures	(3,027 )	(3,189 )
Cash paid for acquisition of intangible asset	(25 )	—
Purchases of marketable securities	—	(1,026 )
Maturities and sales of marketable securities	—	6,013
Net cash (used in) provided by investing activities	\$(3,052 )	\$1,798
Cash flows from financing activities:		
Repayments of long-term debt	(31 )	(44 )
Repayments of term note borrowings	—	(2,825 )
Proceeds from stock options exercised and employee stock purchase plan	314	—
Sale of treasury stock	—	4,500
Payment of finance lease	(152 )	(107 )
Net cash provided by financing activities	\$131	\$1,524
Effect of exchange rate changes on cash and cash equivalents	204	1,047
Net (decrease) increase in cash and cash equivalents	(3,791 )	3,172
Cash and cash equivalents at beginning of period	18,050	34,596
Cash and cash equivalents at end of period	\$14,259	\$37,768
Supplemental disclosure of non-cash investing activities:		
Changes in accrued other and accounts payable related to property and equipment additions	\$161	\$537

See accompanying Notes to Unaudited Consolidated Financial Statements.

## KVH INDUSTRIES, INC. AND SUBSIDIARIES

### 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) is a leading manufacturer of solutions that provide global high-speed Internet, television, and voice services via satellite to mobile users at sea and on land. KVH is also a leading provider of commercially licensed entertainment, including news, sports, music, and movies, to commercial and leisure customers in the maritime, hotel, and retail markets. In addition, the Company develops and distributes training films and eLearning computer-based training courses to commercial maritime customers. KVH is also a premier manufacturer of high-performance navigational sensors and integrated inertial systems for defense and commercial applications. KVH's reporting segments are as follows:

- the mobile connectivity segment and
- the inertial navigation segment

KVH's mobile connectivity products enable customers to receive voice services, 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 March 2019, KVH introduced a 1-meter Ku/C-band antenna designed to deliver download/upload speeds as fast as 20 Mbps/3Mbps through a dual Ku/C-band design that automatically switches between bandwidths to deliver expanded global coverage on KVH's mini-VSAT Broadband high-throughput satellite (HTS) network. In March 2019, KVH further expanded the mini-VSAT Broadband HTS network for the entire Pacific Ocean region via the Horizons 3e satellite, which is jointly owned by Intelsat and SKY Perfect JSAT. The high-performance Horizons 3e satellite immediately adds to the global coverage and capacity of KVH's mini-VSAT Broadband HTS network, which provides connectivity to vessels worldwide.

KVH's mobile connectivity service sales primarily represent 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 VoIP services, to its TracPhone V-series customers. The Company offers AgilePlans, a monthly mini-VSAT Broadband subscription model providing global connectivity to commercial maritime customers, including hardware, installation, broadband Internet, Voice over Internet Protocol (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 retains ownership of the hardware, it does not accrue any warranty costs for AgilePlans hardware; however, any maintenance costs for the hardware are expensed in the period these costs are incurred. 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, 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). 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 technology is 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, 2018 filed on March 1, 2019 with the Securities and Exchange Commission. The results for the three months ended March 31, 2019 are not necessarily indicative of operating results for the remainder of the year.

### Significant Estimates and Assumptions and Other Significant Non-Recurring Transactions

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, valuations and deferred purchase price consideration related to asset acquisition, 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 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 in addition to the valuation of right-of-use assets and lease liabilities, for the three months ended March 31, 2019.

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.

The only material change to the significant accounting policies disclosed in the Company's annual report on Form 10-K for the year ended December 31, 2018 was the Company's adoption of Accounting Standards Codification (ASC) 842, Leases, effective January 1, 2019. Please see Note 19 for further discussion.

On February 27, 2018, the Company entered into a stock purchase agreement with SKY Perfect JSAT Corporation, or SJC, pursuant to which the Company agreed to sell 377 shares of treasury stock to SJC for a purchase price of \$11.95 per share, or an aggregate of \$4,500, in a private placement. The transaction closed on February 28, 2018.

During the first quarter of 2018, the Company entered into a five-year capital lease for three satellite hubs for the HTS network. Please see Note 19 for further discussion.

(3) Accounting Standards Issued and Not Yet Adopted

ASC Update No. 2016-13 and ASC Update No. 2018-19

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.

In November 2018, the FASB issued ASC Update No. 2018-19, Codification Improvements to Topic 326, Financial Instruments—Credit Losses. This update introduced an expected credit loss methodology for the impairment of financial assets measured at amortized cost basis. The amendment also clarifies that receivables arising from operating leases are not within the scope of Subtopic 326-20. Instead, impairment of receivables arising from operating leases should be accounted for in accordance with Topic 842, Leases. The adoption of Update No. 2016-13 and 2018-19 is not expected to have a material impact on the Company's financial position or results of operations.

ASC Update No. 2018-13

In August 2018, the FASB issued ASC Update No. 2018-13, Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement. The update is effective for annual periods beginning on or after December 15, 2019. Early adoption is permitted upon issuance of this update. The purpose of Update No. 2018-13 is to modify and eliminate some of the disclosure requirements on fair value measurements found in Topic 820, Fair Value Measurement, for both public and nonpublic entities. Through the inclusion of this update, FASB aims to facilitate a clear communication of the information required by GAAP that is most important to users of each entity's financial statements, thus helping to improve the effectiveness of disclosures in the notes to financial statements. Update No. 2018-13 is not expected to have a material impact on the Company's financial position or results of operations.

ASC Update No. 2018-15

In August 2018, the FASB issued ASC Update No. 2018-15, Intangibles—Goodwill and Other—Internal-Use Software (Topic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract. The update is effective for annual periods beginning on or after December 15, 2019. Early adoption of the amendments in this update is permitted, including adoption in any interim period, for all entities. The purpose of Update No. 2018-15 is to provide a new guideline to the accounting of a customer of a cloud computing arrangement hosted by a vendor when the customer incurs costs associated with the implementation, set-up, and other upfront costs. Specifically, customers will follow the same criteria found in an arrangement with a software license when they capitalize the implementation costs. The new guidance also affects the classification of the capitalized implementation costs and related amortization expense found in a company's balance sheet, income statement, and cash flow statement, and the update also requires additional quantitative and qualitative disclosures. Update No. 2018-15 is not expected to have a material impact on the Company's financial position or results of operations.

ASC Update No. 2018-18

In November 2018, the FASB issued ASC Update No. 2018-18, Collaborative Arrangements (Topic 808): Clarifying the Interaction between Topic 808 and Topic 606. This update is effective for public business entities for fiscal years beginning after December 15, 2019, and the interim periods within those fiscal years. Early adoption is permitted, including adoption in any interim period, for public business entities for periods for which financial statements have not yet been issued. The purpose of Update No. 2018-18 is to help make clarifications on the interactions between Topic 808, Collaborative Arrangement, and Topic 606, Revenue from Contracts with Customers. Update No. 2018-18 is not expected to have a material impact on the Company's financial position or results of operation.

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

## (4) Marketable Securities

Marketable securities as of March 31, 2019 and December 31, 2018 consisted of the following:

March 31, 2019	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market mutual funds	\$ 25	\$	—\$	—\$ 25
Total marketable securities designated as available-for-sale	\$ 25	\$	—\$	—\$ 25

December 31, 2018	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market mutual funds	\$ 25	\$	—\$	—\$ 25
Total marketable securities designated as available-for-sale	\$ 25	\$	—\$	—\$ 25

The amortized costs and fair value of marketable securities as of March 31, 2019 and December 31, 2018 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.

March 31, 2019	Amortized Cost	Fair Value
Due in less than one year	\$	—\$ —
December 31, 2018	Amortized Cost	Fair Value
Due in less than one year	\$	—\$ —

Interest income from marketable securities was less than \$1 and \$12 during the three months ended March 31, 2019 and 2018, respectively.

## (5) Stockholder's Equity

## (a) Stock Equity and Incentive Plan

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 \$860 and \$843 for the three months ended March 31, 2019 and 2018, respectively. As of March 31, 2019, there was \$2,152 of total unrecognized compensation expense related to stock options, which is expected to be recognized over a weighted-average period of 2.68 years. As of March 31, 2019, there was \$3,743 of total unrecognized compensation expense related to restricted stock awards, which is expected to be recognized over a weighted-average period of 1.93 years.

## Stock Options

During the three months ended March 31, 2019, 7 stock options were exercised for common stock, and no shares of common stock were delivered to the Company as payment for the exercise price or related minimum tax withholding obligations for the exercise of such options. During the three months ended March 31, 2019, no stock options were granted and 2 stock options expired, were canceled or were forfeited. The Company estimates the fair value of each option grant on the date of grant using the Black-Scholes option-pricing model.

As of March 31, 2019, there were 1,267 options outstanding with a weighted average exercise price of \$10.29 per share and 514 options exercisable with a weighted average exercise price of \$10.37 per share.





## Restricted Stock

During the three months ended March 31, 2019, 78 shares of restricted stock were granted with a weighted average grant date fair value of \$10.59 per share, and no shares of restricted stock were forfeited. Additionally, during the three months ended March 31, 2019, 194 shares of restricted stock vested, none of which were surrendered to the Company to satisfy minimum tax withholding obligations for the vesting of such shares.

As of March 31, 2019, there were 409 shares of restricted stock outstanding that were subject to service-based vesting conditions.

As of March 31, 2019, the Company had no unvested outstanding options and no shares of restricted stock that were subject to performance-based or market-based vesting conditions.

## (b) Employee Stock Purchase Plan

The Company's Amended and Restated 1996 Employee Stock Purchase Plan (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 months ended March 31, 2019 and 2018, 23 and 0 shares were issued under the ESPP plan, respectively. The Company recorded compensation charges of \$14 and \$10 for the three months ended March 31, 2019 and 2018, respectively, related to the ESPP.

## (c) Stock-Based Compensation Expense

The following table presents stock-based compensation expense, including under the ESPP, in the Company's consolidated statements of operations for the three months ended March 31, 2019 and 2018:

	Three Months Ended March 31, 2019 2018	
Cost of product sales	\$41	\$71
Cost of service sales	—	—
Research and development	172	170
Sales, marketing and support	182	181
General and administrative	479	431
	\$874	\$853

## (d) Accumulated Other Comprehensive Loss

Comprehensive income (loss) includes net income (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. 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).

	Foreign Currency Translation	Unrealized (Loss) Gain on Available for Sale Marketable Securities	Interest Rate Swaps	Total Accumulated Other Comprehensive Loss
Balance, December 31, 2018	\$ (14,720 )	\$ —	—\$ (11 )	\$ (14,731 )
Other comprehensive income before reclassifications	1,080	—	—	1,080
Amounts reclassified from AOCI to Other income, net	—	—	8	8
Net other comprehensive income, March 31, 2019	1,080	—	8	1,088
Balance, March 31, 2019	\$ (13,640 )	\$ —	—\$ (3 )	\$ (13,643 )

	Foreign Currency Translation	Unrealized (Loss) Gain on Available for Sale Marketable Securities	Interest Rate Swaps	Total Accumulated Other Comprehensive Loss
Balance, December 31, 2017	\$ (11,247 )	\$ (1 )	\$ (69 )	\$ (11,317 )
Other comprehensive income before reclassifications	2,444	1	7	2,452
Amounts reclassified from AOCI to Other income, net	—	—	15	15
Net other comprehensive income, March 31, 2018	2,444	1	22	2,467
Balance, March 31, 2018	\$ (8,803 )	\$ —	\$ (47 )	\$ (8,850 )

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

## (6) Net Loss per Common Share

Basic net loss per share is calculated based on the weighted average number of common shares outstanding during the period. Diluted net loss 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 months ended March 31, 2019 and 2018, since there was a net loss, the Company excluded 1,042 and 251, 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.

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

	Three Months Ended March 31,	
	2019	2018
Weighted average common shares outstanding—basic	17,302	16,742
Dilutive common shares issuable in connection with stock plans	—	—
Weighted average common shares outstanding—diluted	17,302	16,742

## (7) Inventories

Inventories are stated at the lower of cost and net realizable value using the first-in first-out costing method. Inventories as of March 31, 2019 and December 31, 2018 include the costs of material, labor, and factory overhead. Components of inventories consist of the following:

	March 31, December 31,	
	2019	2018
Raw materials	\$ 14,822	\$ 13,698
Work in process	3,513	2,489
Finished goods	7,727	6,755
	\$ 26,062	\$ 22,942

## (8) Property and Equipment

Property and equipment, net, as of March 31, 2019 and December 31, 2018 consist of the following:

	March 31, 2019	December 31, 2018
Land	\$3,828	\$ 3,828
Building and improvements	24,059	24,060
Leasehold improvements	483	483
Machinery and equipment	17,345	17,239
Revenue-generating assets	44,442	42,424
Office and computer equipment	14,428	13,980
Motor vehicles	31	31
	104,616	102,045
Less accumulated depreciation	(50,919 )	(48,797 )
	\$53,697	\$53,248

Depreciation expense was \$2,568 and \$1,953 for the three months ended March 31, 2019 and 2018, respectively.

Certain revenue-generating hardware assets are utilized by the Company 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 March 31, 2019 and December 31, 2018, the Company had accrued product warranty costs of \$2,021 and \$1,916, respectively.

The following table summarizes product warranty activity during 2019 and 2018:

	Three Months Ended March 31,	
	2019	2018
Beginning balance	\$1,916	\$2,074
Charges to expense	453	741
Costs incurred	(348 )	(788 )
Ending balance	\$2,021	\$2,027

## (10) Debt

Long-term debt consisted of the following:

	March 31, December 31,	
	2019	2018
2018 term notes	\$ 21,938	\$ 21,938
Line of credit	5,000	5,000
Mortgage loan	2,551	2,597
Total long-term debt	29,489	29,535
Less debt issuance costs for 2018 term note(a)	155	170
Total long-term debt less debt issuance costs	\$ 29,334	\$ 29,365
Less amounts classified as current	10,585	9,928
Long-term debt, excluding current portion	\$ 18,749	\$ 19,437

(a)- Debt issuance costs classified as current and long-term are \$60 and \$95, respectively.

## Term Note and Line of Credit

On October 30, 2018, the Company amended and restated the 2014 Credit Agreement by entering into (i) a three-year senior credit facility agreement (the 2018 Credit Agreement) with Bank of America, N.A., as Administrative Agent, and the lenders named from time to time as parties thereto (the 2018 Lenders), for an aggregate amount of up to \$42,500, including a term loan (2018 Term Loan) of \$22,500 and a reducing revolving credit facility (the 2018 Revolver) of up to \$20,000 initially and reducing to \$15,000 on December 31, 2019, each to be used for general corporate purposes, including the refinancing of the Company's then-outstanding indebtedness under the 2014 Credit Agreement as described below, (ii) a Security Agreement 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 2018 Credit Agreement, and (iii) Pledge Agreements 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 2018 Credit Agreement. On the closing date, the Company repaid \$17,225 on the 2014 Term Loan and refinanced its remaining balance. On the closing date, the Company also borrowed \$5,000 under the 2018 Revolver.



The Company is required to make principal repayments on the 2018 Term Loan in the amount of \$563 at the end of each of the first four three-month periods following the closing (ending with the period ending September 30, 2019); thereafter, the principal repayment amount increases to \$703 for the four succeeding three-month periods (ending with the period ending September 30, 2020) and further increases to \$844 for each succeeding three-month period (ending with the period ending June 30, 2021) until the maturity of the loan on October 30, 2021. The first principal payment on the 2018 Term Loan was due on December 31, 2018. As of March 31, 2019, due to the timing of the payment schedule, no payment occurred during the three months ended March 31, 2019 and there are five quarters of principal repayments outstanding in the current portion of long-term debt. On October 30, 2021, the entire remaining principal balance of the 2018 Term Loan and the entire principal balance of any outstanding loans under the 2018 Revolver are due and payable, together with all accrued and unpaid interest, fees, and any other amounts due and payable under the 2018 Credit Agreement. The 2018 Credit Agreement contains provisions requiring the mandatory prepayment of amounts outstanding under the 2018 Term Loan and the 2018 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 above certain threshold amounts outside the ordinary course of business. The prepayments are first applied to the 2018 Term Loan, in inverse order of maturity, and then to the 2018 Revolver.

Loans under the 2018 Credit Agreement bear interest at varying rates determined in accordance with the 2018 Credit Agreement. Each Eurodollar Rate Loan, as defined in the 2018 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 Eurodollar Rate, each as defined in the 2018 Credit Agreement, as elected by the Company, plus the Applicable Margin, as defined in the 2018 Credit Agreement, and each Base Rate Loan, as defined in the 2018 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 2018 Credit Agreement, plus the Applicable Margin. The Applicable Margin ranges from 1.50% to 2.375% on Eurodollar Rate Loans and from 0.50% to 1.375% on Base Rate Loans, each depending on the Company's Consolidated Leverage Ratio, as defined in the 2018 Credit Agreement. The highest Applicable Margin applies initially until the Compliance Certificate, as defined in the 2018 Credit Agreement, is delivered for the quarter ending June 30, 2019 and subsequently when the Consolidated Leverage Ratio exceeds 2.50:1.00. Upon certain defaults, including failure to make payments when due, interest becomes payable at a higher default rate.

Borrowings under the 2018 Revolver are subject to the satisfaction of various 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 2018 Credit Agreement. As of March 31, 2019, there was \$5,000 outstanding under the 2018 Revolver and the remaining balance of \$15,000 was available for borrowing.

The 2018 Credit Agreement contains two financial covenants, a maximum Consolidated Leverage Ratio and a minimum Consolidated Fixed Charge Coverage Ratio, each as defined in the 2018 Credit Agreement. The Consolidated Leverage Ratio initially may not be greater than 3.00:1.00 and declines to 2.75:1.00 on September 30, 2019, to 2.50:1.00 on December 31, 2019 and to 2.00:1.00 on December 31, 2020. The Consolidated Fixed Charge Coverage Ratio may not be less than 1.25:1.00.

The 2018 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, performance of 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 2018 Credit Agreement could be accelerated upon an event of default under its terms, 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 2018 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 Company property loss events, and certain events relating to the impairment of collateral or the 2018 Lenders' security interest therein.

## Mortgage Loan

As of March 31, 2019, the Company had 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 was ten years, with a principal amortization of 20 years. The interest rate was based on the BBA LIBOR Rate plus 2.00 percentage points. The Mortgage Loan was secured by the underlying property and improvements. The monthly mortgage payment was approximately \$15, plus interest. Due to the difference in the term of the loan and amortization of the principal, a balloon payment of \$2,551 was due on April 1, 2019.

As discussed in Note 17 to the consolidated financial statements, the Company entered into two interest rate swap agreements that were intended to hedge its mortgage interest obligations over the term of the Mortgage Loan by fixing the interest rates specified in the Mortgage Loan to 5.91% for half of the principal amount outstanding as of April 1, 2010 and 6.07% for the remaining half. In April 2019, the Company repaid in full the current balance of the Mortgage Loan.

## (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 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 20% of the Company's consolidated net sales for the three months ended March 31, 2019 and 2018, respectively. Sales of mini-VSAT Broadband airtime service accounted for 46% and 41% of the Company's consolidated net sales for the three months ended March 31, 2019 and 2018, respectively. Sales of content and training services within the mobile connectivity segment accounted for 16% and 19% of the Company's consolidated net sales for the three months ended March 31, 2019 and 2018, 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% of the Company's consolidated net sales for each of the three months ended March 31, 2019 and 2018.

No other single product class accounts for 10% or more of the Company's 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 62% and 58% of the Company's consolidated net sales for the three months ended March 31, 2019 and 2018, respectively. No individual foreign country represented 10% or more of the Company's consolidated net sales for the three months ended March 31, 2019 or 2018.

As of March 31, 2019 and December 31, 2018, 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 (loss) income for the Company's reporting segments and the Company's loss before income tax expense for the three months ended March 31, 2019 and 2018 were as follows:

	Three Months Ended March 31, 2019      2018	
Net sales:		
Mobile connectivity	\$32,510	\$32,749
Inertial navigation	7,462	7,352
Consolidated net sales	\$39,972	\$40,101

Operating (loss) income:		
Mobile connectivity	\$(1,039 )	\$1,072
Inertial navigation	443	334
Subtotal	(596 )	1,406
Unallocated, net	(5,233 )	(4,586 )
Loss from operations	(5,829 )	(3,180 )
Net interest and other expense	(316 )	(535 )
Loss before income tax expense	\$(6,145 )	\$(3,715 )

Depreciation expense and amortization expense for the Company's reporting segments for the three months ended March 31, 2019 and 2018 were as follows:

	Three Months Ended March 31, 2019      2018	
Depreciation expense:		
Mobile connectivity	\$2,145	\$1,470
Inertial navigation	286	218
Unallocated	137	265
Total consolidated depreciation expense	\$2,568	\$1,953

Amortization expense:		
Mobile connectivity	\$959	\$1,097
Inertial navigation	—	—
Unallocated	—	—
Total consolidated amortization expense	\$959	\$1,097

## (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 March 31, 2019, 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 three months ended March 31, 2019 and no repurchase programs expired during the period.

During the three months ended March 31, 2019 and 2018, the Company did not repurchase any shares of its common stock in open market transactions.

(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.
- 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 March 31, 2019 and December 31, 2018 for which the Company measures fair value on a recurring basis, by level, within the fair value hierarchy:

March 31, 2019	Total	Level 1	Level 2	Level 3	Valuation Technique
Assets					
Money market mutual funds	\$ 25	\$ 25	\$ —	\$ —	—(a)
Liabilities					
Interest rate swaps	\$ 3	\$ —	\$ 3	\$ —	—(b)
December 31, 2018	Total	Level 1	Level 2	Level 3	Valuation Technique
Assets					
Money market mutual funds	\$ 25	\$ 25	\$ —	\$ —	—(a)
Liabilities					
Interest rate swaps	\$ 11	\$ —	\$ 11	\$ —	—(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 March 31, 2019. 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 three months ended March 31, 2019:

	Amounts
Balance at December 31, 2018	\$ 32,213
Foreign currency translation adjustment	632
Balance at March 31, 2019	\$ 32,845

##### Intangible Assets

The changes in the carrying amount of intangible assets during the three months ended March 31, 2019 are as follows:

	Amounts
Balance at December 31, 2018	\$ 10,518
Amortization expense	(959 )
Intangible assets acquired in asset acquisition	25
Foreign currency translation adjustment	223
Balance at March 31, 2019	\$ 9,807





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 of March 31, 2019, the carrying value of the intangible assets acquired in the asset acquisition was \$202. 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 three months ended March 31, 2019, \$25 additional consideration was earned under the contingent consideration arrangement.

Acquired intangible assets are subject to amortization. The following table summarizes acquired intangible assets at March 31, 2019 and December 31, 2018, respectively:

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value
March 31, 2019			
Subscriber relationships	\$ 17,742	\$ 10,825	\$ 6,917
Distribution rights	4,290	1,799	2,491
Internally developed software	2,327	2,327	—
Proprietary content	8,181	7,812	369
Intellectual property	2,284	2,284	—
Favorable lease	645	615	30
	\$ 35,469	\$ 25,662	\$ 9,807
December 31, 2018			
Subscriber relationships	\$ 17,570	\$ 10,337	\$ 7,233
Distribution rights	4,233	1,731	2,502
Internally developed software	2,327	2,327	—
Proprietary content	8,164	7,439	725
Intellectual property	2,284	2,284	—
Favorable lease	643	585	58
	\$ 35,221	\$ 24,703	\$ 10,518

Amortization expense related to intangible assets for the three months ended March 31, 2019 and 2018 was as follows:

	Three Months Ended March 31,	
Expense Category	2019	2018
Cost of service sales	\$373	\$399
General and administrative expense	586	698
Total amortization expense	\$959	\$1,097

As of March 31, 2019, the total weighted average remaining useful lives of the definite-lived intangible assets was 3.1 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	3.6
Distribution rights	9.1
Proprietary content	0.3
Favorable lease	0.3

Estimated future amortization expense remaining at March 31, 2019 for intangible assets acquired was as follows:

Remainder of 2019	\$2,069
2020	2,225
2021	2,225
2022	1,463
2023	544
Thereafter	1,281
Total future amortization expense	\$9,807

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 first quarter of 2019 which indicated that an assessment of the impairment of goodwill and intangible assets was required.

#### (16) Revenue from Contracts with Customers (ASC 606)

The Company adopted ASC 606 on January 1, 2018 using the modified retrospective method for all contracts not completed as of the date of adoption. The adoption of ASC 606 represents a change in accounting principle that is expected to more closely align revenue recognition with the delivery of the Company's products and services and is expected to provide financial statement readers with enhanced disclosures. In accordance with ASC 606, revenue is recognized when a customer obtains control of promised products and services. The amount of revenue recognized reflects the consideration to which the Company expects to be entitled to receive in exchange for these products and services.

#### Disaggregation of Revenue

The following table summarizes net sales from contracts with customers for the three months ended March 31, 2019 and 2018:

	Three Months Ended March 31,	
	2019	2018
Mobile connectivity product, transferred at point in time	\$5,677	\$6,670
Mobile connectivity product, transferred over time	1,385	1,250
Mobile connectivity service	25,448	24,829
Inertial navigation product	5,812	6,072
Inertial navigation service	1,650	1,280
Total net sales	\$39,972	\$40,101



Revenue recognized during the three months ended March 31, 2019 and 2018 from amounts included in contract liabilities at the beginning of the period was \$1,336 and \$1,215, respectively.

For mobile connectivity product sales, the delivery of the Company's performance obligations, and associated revenue, are generally transferred to the customer at a point in time, with the exception of certain mini-VSAT contracts which are transferred to customers over time. For mobile connectivity service sales, the delivery of the Company's performance obligations and associated revenue are transferred to the customer over time. For inertial navigation product sales, the delivery of the Company's performance obligations, and associated revenue, are generally transferred to the customer at a point in time. For inertial navigation service sales, the Company's performance obligations, and associated revenue, are generally transferred to customers over time.

#### 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 the first quarter of 2019 or 2018 or accounts receivable at March 31, 2019 or December 31, 2018.

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 were 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 5.9% 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 1, 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 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. 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 Operations. The interest rate swap was 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 ended on April 1, 2019. As of March 31, 2019, 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 March 31, 2019, 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	\$ 1,275	(1 )	April 1, 2010	April 1, 2019	1-month LIBOR	5.91 %
Interest rate swap	\$ 1,275	(2 )	April 1, 2010	April 1, 2019	1-month LIBOR	6.07 %

As of December 31, 2018, 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	\$ 1,299	(5 )	April 1, 2010	April 1, 2019	1-month LIBOR	5.91 %
Interest rate swap	\$ 1,299	(6 )	April 1, 2010	April 1, 2019	1-month LIBOR	6.07 %

(18) Income Taxes

The Company's effective tax rate for the three months ended March 31, 2019 was (0.6)% compared with (4.8)% for the corresponding period in the prior year. The effective income tax rate is 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 the three months ended March 31, 2019 and 2018, the effective tax rate was lower than the statutory tax rate primarily due to the Company maintaining a valuation allowance reserve on its US deferred tax assets and to the composition of income from foreign jurisdictions taxed at lower rates.

As of March 31, 2019 and December 31, 2018, the Company had reserves for uncertain tax positions of \$1,141 and \$1,116, respectively. There were no material changes during the three months ended March 31, 2019 to the Company's reserve for uncertain tax positions. The Company estimates that it is reasonably possible that the balance of unrecognized tax benefits as of March 31, 2019 may decrease \$359 in the next twelve months as a result of a lapse of statutes of limitations and settlements with taxing authorities.

The Company's tax jurisdictions include the United States, the United Kingdom, Denmark, Cyprus, Norway, Brazil, Singapore, Belgium, the Netherlands, Hong Kong, India and Japan. In general, the statute of limitations with respect to the Company's United States federal income taxes has expired for years prior to 2014, and the relevant state and foreign statutes vary. However, preceding years remain open to examination by United States federal and state and foreign taxing authorities to the extent of future utilization of net operating losses and research and development tax credits generated in each preceding year.

(19) Leases

The Company adopted ASC 842 on January 1, 2019. ASC 842 requires the recognition of lease assets and lease liabilities for leases classified as operating leases. The original guidance required application of ASC 842 on a modified retrospective basis with the earliest period presented. In August 2018, the FASB issued ASU 2018-11, Targeted Improvements to ASC 842, which included an option to not restate comparative periods in transition and elect to use the effective date as the date of initial application of transition. The Company elected not to restate comparative periods and, accordingly, the financial results reported for periods prior to January 1, 2019 have not been restated. In ASC 842, a lease is defined as follows: "[a] contract is or contains a lease if the contract conveys the right to control the use of identified property, plant, or equipment (an identified asset) for a period of time in exchange for consideration."

Upon adoption, the Company recognized all leases greater than one year in duration on the balance sheet as right-of-use assets and lease liabilities. The Company made certain assumptions and judgments when applying ASC 842. The Company elected practical expedients available for the transition, such as whether expired or existing contracts contain leases under the new definition of a lease, lease classification for expired or existing leases, and whether previously capitalized initial direct costs would qualify for capitalization under ASC 842. For all asset classes, the Company elected to not separate non-lease components from lease components to which they relate and have accounted for the combined lease and non-lease components as a single lease component.

Many of our lease agreements contain renewal options which are recognized if it is determined that the Company is reasonably certain to renew the lease at inception or when a triggering event occurs. Some of our lease agreements contain rent escalation clauses, rent holidays, capital improvement funding or other lease concessions. The Company recognizes the minimum rental expense on a straight-line basis based on the fixed components of a lease arrangement

and amortize such expense over the term of the lease beginning with the commencement date. Variable lease components that are not fixed at the beginning of the lease are recognized as incurred.

Under certain third-party service agreements, the Company controls a specific space or underlying asset used in providing the service by the third-party service provider. These arrangements meet the definition under ASC 842 and therefore are accounted for under ASC 842. Right-of-use assets and lease liabilities are recognized at commencement date based on the present value of lease payments over the lease term and include options to extend or terminate the lease when reasonably certain to be exercised. The present value of lease payments is determined using the incremental borrowing rate based on the information available at the lease commencement date.



The Company has operating leases for office facilities, equipment, and satellite service capacity and related equipment. Lease expense for the three months ended March 31, 2019 was \$1,310. The future minimum lease payments under our operating leases as of March 31, 2019 are:

Remainder of 2019	\$3,883
2020	2,987
2021	1,275
2022	1,196
2023	386
2024 and thereafter	536
Total minimum lease payments	\$10,263
Less amount representing interest	\$(842 )
Present value of net minimum operating lease payments	\$9,421
Less current installments of obligation under current-operating lease liabilities	\$4,749
Obligations under long term - operating lease liabilities, excluding current installments	\$4,672
Weighted-average remaining lease term - operating leases (years)	3.00
Weighted-average discount rate - operating leases	5.50 %

During the first quarter of 2018, the Company entered into a five-year financing lease for three satellite hubs for its HTS network. As of March 31, 2019, the gross costs and accumulated amortization associated with this lease are included in revenue generating assets and amounted to \$3,068 and \$517, respectively. Property and equipment under capital leases are stated at the present value of minimum lease payments.

The property and equipment held under this financing lease are amortized on a straight line basis over the seven-year estimated useful life of the asset, since the lease meets the bargain purchase option criteria. Amortization of assets held under financing leases is included within depreciation expense. Depreciation expense for these capital assets was \$110 and \$78 for the three months ended March 31, 2019 and 2018, respectively.

The future minimum lease payments under this financing lease as of March 31, 2019 are:

Remainder of 2019	\$468
2020	624
2021	624
2022	624
2023	45
2024 and thereafter	—
Total minimum lease payments	\$2,385
Less amount representing interest	\$(30 )
Present value of net minimum financing lease payments	\$2,355
Less current installments of obligation under accrued other	\$611
Obligations under other long-term liabilities, excluding current installments	\$1,744
Weighted-average remaining lease term - finance leases (years)	3.92
Weighted-average discount rate - finance leases	1.53 %



## 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 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 I of our annual report on Form 10-K for the year ended December 31, 2018. 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 inertial navigation products for the commercial and defense 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.

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 fees and usage-based 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. As a percentage of our consolidated net sales, our service sales were 68% and 65% for the three months ended March 31, 2019 and 2018, respectively.

Our marine leisure 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 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 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.

## 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. Our inertial navigation service sales include engineering services provided under development contracts, product repairs and extended warranty sales.

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 March 31,	
	2019	2018
	(in thousands)	
Mobile connectivity	\$32,510	\$32,749
Inertial navigation	7,462	7,352
Net sales	\$39,972	\$40,101

Product sales within the mobile connectivity segment accounted for 18% and 20% of our consolidated net sales for the three months ended March 31, 2019 and 2018, respectively. Sales of mini-VSAT Broadband airtime services accounted for approximately 46% and 41% of our consolidated net sales for the three months ended March 31, 2019 and 2018, respectively. Sales of content and training services within the mobile connectivity segment accounted for 16% and 19% of our consolidated net sales for the three months ended March 31, 2019 and 2018, respectively.

Within our inertial navigation segment, net sales of FOG-based guidance and navigation systems accounted for 13% of our consolidated net sales for both the three months ended March 31, 2019 and 2018.

No other single product class accounted for 10% or more of our consolidated net sales for the three months ended March 31, 2019 or 2018. No individual customer accounted for 10% or more of our consolidated net sales for the three months ended March 31, 2019 or 2018.

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 62% and 58% of our consolidated net sales for the three months ended March 31, 2019 and 2018, respectively. No individual foreign country represented 10% or more of our consolidated net sales for the three months ended March 31, 2019 or 2018. See Note 11 to our consolidated financial statements for more information on our segments.

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 March 31, 2019 2018 (in thousands)	
Research and development expense presented on the statement of operations	\$3,868	\$3,934
Costs of customer-funded research and development included in costs of service sales	1,048	675
Total consolidated statements of operations expenditures on research and development activities	\$4,916	\$4,609

#### 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, 2018.

As described in our annual report on Form 10-K for the year ended December 31, 2018, 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 three months ended March 31, 2019. We have updated our leasing policies in conjunction with our adoption of ASC 842 as of January 1, 2019, as further described in Note 19 to the accompanying financial statements.

Readers should refer to our annual report on Form 10-K for the year ended December 31, 2018 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 March 31,		
	2019	2018	
Sales:			
Product	32.2	34.9	%
Service	67.8	65.1	
Net sales	100.0	100.0	
Cost and expenses:			
Costs of product sales	19.6	22.3	
Costs of service sales	41.8	34.5	
Research and development	9.7	9.8	
Sales, marketing and support	23.3	22.3	
General and administrative	20.2	19.1	
Total costs and expenses	114.6	108.0	
Loss from operations	(14.6)	(8.0)	)
Interest income	0.4	0.4	
Interest expense	1.0	1.0	
Other expense, net	(0.3)	(0.7)	)
Loss before income tax	(15.5)	(9.3)	)
Income tax expense	0.1	0.4	
Net loss	(15.6)%	(9.7)%	)

Three Months Ended March 31, 2019 and 2018

## Net Sales

As discussed further under the heading "Segment Discussion" below, product sales decreased \$1.1 million, or 8%, to \$12.9 million for the three months ended March 31, 2019 from \$14.0 million for the three months ended March 31, 2018, primarily due to a decrease in mobile connectivity product sales of \$0.8 million and a decrease in inertial navigation product sales of \$0.3 million. Service sales for the three months ended March 31, 2019 increased \$1.0 million, or 4%, to \$27.1 million from \$26.1 million for three months ended March 31, 2018 due to an increase in mobile connectivity service sales of \$0.6 million and an increase in inertial navigation service sales of \$0.4 million.

## Costs of Sales

Costs of sales consists of costs of product sales and costs of service sales. Costs of sales increased \$1.8 million, or 8%, in the three months ended March 31, 2019 to \$24.5 million from \$22.7 million in the three months ended March 31, 2018. The increase in costs of sales was driven by an increase of \$2.9 million, or 21%, in costs of service sales, partially offset by a \$1.1 million, or 12%, decrease in costs of product sales. As a percentage of net sales, costs of sales were 61% for the three months ended March 31, 2019 and 57% for the three months ended March 31, 2018.

Our costs of product sales consist primarily of materials, manufacturing overhead, and direct labor used to produce our products. For the three months ended March 31, 2019, costs of product sales decreased \$1.1 million, or 12%, to \$7.8 million from \$8.9 million in the three months ended March 31, 2018. As a percentage of product sales, costs of product sales were 60% and 64% for the three months ended March 31, 2019 and 2018, respectively. Mobile connectivity costs of product sales decreased by \$0.5 million, or 10%, primarily due to a \$0.4 million decrease in our marine mobile connectivity costs of product sales and a \$0.1 million decrease in our land mobile connectivity costs of product sales. Mobile connectivity costs of product sales as a percentage of mobile connectivity product sales was

66% for each of the three months ended March 31, 2019 and 2018. Inertial navigation costs of product sales decreased by \$0.6 million, or 16%, primarily due to a decrease in FOG costs of product sales. Inertial navigation costs of product sales as a percentage of inertial navigation product sales was 53% and 61% for the three months ended March 31, 2019 and 2018, respectively. The decrease was primarily driven by a change in product mix of our different FOG products.



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 March 31, 2019, costs of service sales increased by \$2.9 million, or 21%, to \$16.7 million from \$13.8 million for the three months ended March 31, 2018. As a percentage of service sales, costs of service sales were 62% and 53% for the three months ended March 31, 2019 and 2018, respectively. Mobile connectivity costs of service sales increased by \$2.5 million, or 19%, primarily due to a \$2.7 million increase in mini-VSAT airtime costs of service sales, including increased HTS network capacity costs, legacy network revenue share minimums and AgilePlans depreciation costs, which was partially offset by a \$0.3 million decrease in content and learning costs of service sales. Mobile connectivity costs of service sales as a percentage of mobile connectivity service sales was 61% and 53% for the three months ended March 31, 2019 and 2018, respectively. Inertial navigation costs of service sales increased by \$0.4 million, or 57%, primarily due to an increase in contract engineering services revenues. Inertial navigation costs of service sales as a percentage of inertial navigation service sales was 65% and 58% for the three months ended March 31, 2019 and 2018, respectively.

We expect that our costs of sales will generally increase in correlation with our expected growth in our mobile connectivity and inertial navigation net sales. To the extent that customers continue to subscribe to our AgilePlans program, we expect a corresponding decrease in product sales and increase in depreciation expense for AgilePlans equipment.

#### 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 was \$3.9 million for both the three months ended March 31, 2019 and 2018. Engineering expenses funded by customers (which are reflected in costs of service sales rather than research and development expense) increased by \$0.3 million, which was offset by a \$0.3 million increase in consulting fees. As a percentage of net sales, research and development expense for the three months ended March 31, 2019 and 2018 was 10%.

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 March 31, 2019 increased by \$0.4 million, or 4%, to \$9.3 million from \$8.9 million for the three months ended March 31, 2018. The increase primarily resulted from a \$0.7 million increase in salaries, benefits, and employment taxes due to an increase in headcount, which was partially offset by a \$0.3 million decrease in warranty expense. As a percentage of net sales, sales, marketing and support expense for the three months ended March 31, 2019 and 2018 was 23% and 22%, 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 March 31, 2019 increased by \$0.4 million, or 5%, to \$8.1 million from \$7.7 million for the three months ended March 31, 2018. The increase resulted primarily from a \$0.5 million increase in salaries, benefits, and employment taxes, which was partially offset by a \$0.1 million decrease in professional fees. As a percentage of net sales, general and administrative expense for the three months ended March 31, 2019 and 2018 was 20% and 19%, respectively.

We expect general and administrative expenses to increase year-over-year, 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 March 31, 2019 from \$0.1 million for the three months ended March 31, 2018. Interest expense was \$0.4 million for each of the three months ended March 31, 2019 and 2018. Other expense, net decreased by \$0.2 million primarily due to a decrease in foreign exchange losses from our UK operations.

## Income Tax Expense

Income tax expense for the three months ended March 31, 2019 was less than \$0.1 million and related to taxes on income earned in foreign jurisdictions. The losses we incurred in the U.S. did not generate any income tax benefit during the quarter due to a full valuation allowance on our related deferred tax assets. Income tax expense for the three months ended March 31, 2018 was \$0.2 million and related to taxes on income earned in foreign jurisdictions. The losses we incurred in the U.S. and Brazil did not generate any income tax benefit during the quarter due to a full valuation allowance on our related deferred tax assets.

## Segment Discussion - Three Months Ended March 31, 2019 and 2018

Our net sales by segment for the three months ended March 31, 2019 and 2018 were as follows:

	Change			
	For the three months ended March 31,		2019 vs. 2018	
	2019	2018	\$	%
	(dollars in thousands)			
Mobile connectivity sales				
Product	\$7,062	\$7,920	\$(858)	(11)%
Service	25,448	24,829	619	2%
Net sales	\$32,510	\$32,749	\$(239)	(1)%
Inertial navigation sales				
Product	\$5,812	\$6,072	\$(260)	(4)%
Service	1,650	1,280	370	29%
Net sales	\$7,462	\$7,352	\$110	1%

Operating earnings (loss) by segment for the three months ended March 31, 2019 and 2018 were as follows:

	Change			
	For the three months ended March 31,		2019 vs. 2018	
	2019	2018	\$	%
	(dollars in thousands)			
Mobile connectivity	\$(1,039)	\$1,072	\$(2,111)	(197)%
Inertial navigation	443	334	109	33%
	(596)	\$1,406	(2,002)	(142)%
Unallocated	(5,233)	(4,586)	(647)	(14)%
Loss from operations	\$(5,829)	\$(3,180)	\$(2,649)	(83)%



## Mobile Connectivity Segment

Net sales in the mobile connectivity segment decreased by \$0.2 million, or 1%, for the three months ended March 31, 2019 as compared to the three months ended March 31, 2018. Mobile connectivity product sales decreased by \$0.8 million, or 11%, to \$7.1 million for the three months ended March 31, 2019 from \$7.9 million for the three months ended March 31, 2018. The decrease was due to a \$0.8 million, or 11%, decrease in marine mobile connectivity product sales. The decrease in marine mobile connectivity product sales was primarily due to a \$0.4 million decrease in TracVision product sales and a \$0.4 million decrease in TracPhone product sales and marine accessories, which is partially due to the impact of our AgilePlans subscription service and an increase in mobile connectivity product sales transferred over time in accordance with ASC 606.

Mobile connectivity service sales increased by \$0.6 million, or 2%, to \$25.4 million for the three months ended March 31, 2019 from \$24.8 million for the three months ended March 31, 2018. The increase was primarily due to a \$1.8 million increase in our mini-VSAT service sales compared to the three months ended March 31, 2018, which resulted in part from a 14% increase in subscribers, partially as a result of the introduction of AgilePlans and our HTS network. Partially offsetting this increase was a \$1.2 million decrease in content and training service sales, which resulted primarily from a decrease in subscribers and changes in foreign currency exchange rates.

We expect that our mini-VSAT service sales will continue to grow, primarily through the continued expansion of our mini-VSAT Broadband customer base and the availability of our AgilePlans subscription service model. We expect that mini-VSAT product sales will decline to the extent that customers select the AgilePlans subscription service model.

Our operating loss for the mobile connectivity segment increased by \$2.1 million, or 197%, for the three months ended March 31, 2019 as compared to the three months ended March 31, 2018. This increase was primarily the result of a decrease in service sales less associated costs of \$1.9 million, a decrease in product sales less associated costs of \$0.3 million, and a \$0.4 million increase in salaries, benefits, and employment taxes, which were partially offset by a \$0.3 million decrease in warranty expense.

## Inertial Navigation Segment

Net sales in the inertial navigation segment increased by \$0.1 million, or 1%, for the three months ended March 31, 2019 as compared to the three months ended March 31, 2018. Inertial navigation product sales decreased \$0.3 million, or 4%, to \$5.8 million for the three months ended March 31, 2019 from \$6.1 million for the three months ended March 31, 2018, due to decreased sales of our FOG products. TACNAV sales remained flat year over year.

Inertial navigation service sales increased \$0.4 million, or 29%, to \$1.7 million for the three months ended March 31, 2019 from \$1.3 million for the three months ended March 31, 2018. The increase resulted from a \$0.5 million increase in contracted engineering services for an engineering and services development contract from a major U.S. defense contractor, which began in the fourth quarter of 2018 and will continue through the third quarter of 2021. This was partially offset by a \$0.1 million decrease in inertial navigation repair revenue.

Our operating earnings for the inertial navigation segment increased \$0.1 million, or 33%, for the three months ended March 31, 2019 as compared to the three months ended March 31, 2018. This increase is primarily due to a decrease in cost of product sales.

## Unallocated

Certain corporate-level costs have not been allocated because they are not 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 increase by \$0.6 million, or 14%, for the three months ended March 31, 2019 as compared to the three months ended March 31, 2018. The increase in the operating loss was primarily the result of an increase in salaries and associated compensation.

## Backlog

Backlog is not a meaningful indicator for predicting revenue in future periods. Commercial resellers for our mobile connectivity products and legacy products typically 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. However, as of March 31, 2019, we had over 190 TracPhone V7-HTS units in backlog to be shipped through 2020.

Our backlog for all products and services was \$18.2 million and \$14.5 million as of March 31, 2019 and December 31, 2018, respectively. As of March 31, 2019, \$13.9 million of our backlog was scheduled for fulfillment in 2019, \$1.9 million was scheduled for fulfillment in 2020, and \$2.4 million was scheduled for fulfillment in 2021 through 2028.

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 March 31, 2019, our backlog included \$6.0 million in orders that are subject to cancellation for convenience by the customer. Individual orders for inertial navigation 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, an equity private placement and the proceeds received from exercises of stock options.

As of March 31, 2019, we had \$14.3 million in cash, cash equivalents, and marketable securities, of which \$4.6 million in cash and cash equivalents was held in local currencies by our foreign subsidiaries. Our foreign subsidiaries held no marketable securities as of March 31, 2019. As of March 31, 2019, we had \$11.8 million in working capital.

Net cash used in operations was \$1.1 million for the three months ended March 31, 2019 compared to net cash used in operations of \$1.2 million for the three months ended March 31, 2018. The \$0.1 million decrease in cash used is primarily due to a \$2.4 million increase in cash inflow related to contract liabilities and long-term contract liabilities, a \$1.1 million decrease in cash outflows relating to accounts payable and accrued expenses, a \$1.0 million increase in cash inflows relating to accounts receivable, and a \$0.5 million increase in non-cash items. Partially offsetting these changes were a \$2.5 million increase in cash outflows relating to inventories, a \$2.3 million increase in net loss and a \$0.1 million decrease in cash inflows related to prepaid expenses and other assets. There was no cash flow impact associated with the adoption of ASC 842.

Net cash used in investing activities was \$3.1 million for the three months ended March 31, 2019 compared to net cash provided by investing activities of \$1.8 million for the three months ended March 31, 2018. The \$4.9 million decrease was principally the result of a \$5.0 million decrease in net investments in available-for-sale marketable securities, partially offset by a \$0.1 million decrease in capital expenditures.

Net cash provided by financing activities was \$0.1 million for the three months ended March 31, 2019 compared to net cash provided by financing activities of \$1.5 million for the three months ended March 31, 2018. The \$1.4 million decrease in net cash provided by financing activities is primarily attributable to a \$4.5 million decrease in sale of treasury stock. This amount was partially offset by a \$2.8 million decrease in repayment of long term-debt and a \$0.3 million increase in proceeds from the exercise of stock options.



## Borrowing Arrangements

### Principal Credit Facility

As of March 31, 2019, there was \$21.9 million in aggregate principal amount outstanding under our principal credit facility. On October 30, 2018, we amended and restated the 2014 credit agreement by entering into (i) a three-year senior credit facility agreement, or the 2018 credit agreement, with Bank of America, N.A., as administrative agent, and the lenders named from time to time as parties thereto, or the 2018 lenders, for an aggregate amount of up to \$42.5 million, including a term loan, or the 2018 term loan, of \$22.5 million and a reducing revolving credit facility, or the 2018 revolver, of up to \$20.0 million initially and reducing to \$15.0 million on December 31, 2019, each to be used for general corporate purposes, including the refinancing of our then-outstanding indebtedness under the 2014 credit agreement, (ii) a security agreement with respect to our grant of a security interest in substantially all of our assets in order to secure our obligations under the 2018 credit agreement and, (iii) pledge agreements with respect to our grant of a security interest in 65% of the capital stock of each of KVH Industries A/S and KVH Industries U.K. Limited that we hold in order to secure our obligations under the 2018 credit agreement. On the closing date, we repaid \$17.2 million on the 2014 term loan and refinanced its remaining balance. On the closing date, we also borrowed \$5.0 million under the 2018 revolver.

We are required to make principal repayments on the 2018 term loan in the amount of \$562,500 at the end of each of the first four three-month periods following the closing (ending with the period ending September 30, 2019); thereafter, the principal repayment amount increases to \$703,125 for the succeeding four three-month periods (ending with the period ending September 30, 2020) and further increases to \$843,750 for each succeeding three-month period (ending with the period ending June 30, 2021) until the maturity of the loan on October 30, 2021. The first principal payment on the 2018 term loan was due on December 31, 2018. As of March 31, 2019, due to the timing of the payment schedule, no payment occurred during the three months ended March 31, 2019 and there are five quarters of principal repayments outstanding in the current portion of long-term debt. On October 30, 2021, the entire remaining principal balance of the 2018 term loan and the entire principal balance of any outstanding loans under the 2018 revolver are due and payable, together with all accrued and unpaid interest, fees, and any other amounts due and payable under the 2018 credit agreement. The 2018 credit agreement contains provisions requiring the mandatory prepayment of amounts outstanding under the 2018 term loan and the 2018 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 above certain threshold amounts outside the ordinary course of business. The prepayments are first applied to the 2018 term loan, in inverse order of maturity, and then to the 2018 revolver.

Loans under the 2018 credit agreement bear interest at varying rates determined in accordance with the 2018 credit agreement. Each Eurodollar Rate Loan, as defined in the 2018 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 Eurodollar Rate, each as defined in the 2018 credit agreement, as we elect, plus the Applicable Margin, as defined in the 2018 credit agreement, and each Base Rate Loan, as defined in the 2018 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 2018 credit agreement, plus the Applicable Margin. The Applicable Margin ranges from 1.50% to 2.375% on Eurodollar Rate Loans and from 0.50% to 1.375% on Base Rate Loans, each depending on our Consolidated Leverage Ratio, as defined in the 2018 credit agreement. The highest Applicable Margin applies initially until the Compliance Certificate, as defined in the 2018 credit agreement, is delivered for the quarter ending June 30, 2019 and subsequently when the Consolidated Leverage Ratio exceeds 2.50:1.00. Upon certain defaults, including failure to make payments when due, interest becomes payable at a higher default rate.

Borrowings under the 2018 revolver are subject to the satisfaction of various 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 2018 credit agreement.

The 2018 credit agreement contains two financial covenants, a maximum Consolidated Leverage Ratio and a minimum Consolidated Fixed Charge Coverage Ratio, each as defined in the 2018 credit agreement. The Consolidated Leverage Ratio initially may not be greater than 3.00:1.00 and declines to 2.75:1.00 on September 30, 2019, to 2.50:1.00 on December 31, 2019 and to 2.00:1.00 on December 31, 2020. The Consolidated Fixed Charge Coverage Ratio may not be less than 1.25:1.00.

The 2018 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, performance of 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 2018 credit agreement could be accelerated upon an event of default under its terms, 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 2018 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 property loss events, and certain events relating to the impairment of collateral or the 2018 lenders' security interest therein.

#### Mortgage Loan

As of March 31, 2019, we had a \$4.0 million mortgage loan related to our headquarters facility in Middletown, Rhode Island. The loan term was ten years, with a principal amortization of 20 years. The interest rate was based on the BBA LIBOR Rate (as defined in the loan agreement) plus 2.00 percentage points. The mortgage loan was secured by the underlying property and improvements. The monthly mortgage payment was approximately \$15,000. Due to the difference in the term of the loan and amortization of the principal, a balloon payment of \$2.6 million was due on April 1, 2019.

In 2010, we entered into two interest rate swap agreements that were intended to hedge our mortgage interest obligations over the term of the mortgage loan by fixing the interest rates specified in the mortgage loan to 5.91% for half of the principal amount outstanding as of April 1, 2010 and 6.07% for the remaining half. In April 2019, we repaid in full the current balance of the 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. From time to time we have entered into multi-year agreements to lease satellite capacity, and we have also purchased numerous satellite hubs to support the added capacity. These transactions can involve millions of dollars, and from time to time we have entered into secured lending arrangements to finance them. During the first quarter of 2018, we entered into a five-year capital lease for three satellite hubs for the HTS network. The total cost of the five-year capital lease will be \$3.1 million.

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 March 31, 2019, 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 three months ended March 31, 2019.

## 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 March 31, 2019, 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 March 31, 2019.

### 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 first quarter of 2019. 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 first quarter of 2019 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 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 March 31, 2019, 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 March 31, 2019, 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 March 31, 2019.

During the three months ended March 31, 2019, no shares were surrendered to us in satisfaction of tax withholding obligations.

ITEM 6. EXHIBITS

Exhibits:

Exhibit No.	Description	Filed with this Form 10-Q	Incorporated by Reference Form Filing Date	Exhibit No.
<u>3.1</u>	Amended and Restated Certificate of Incorporation, as amended		10-Q August 6, 2010	3.1
<u>3.2</u>	Amended and Restated Bylaws		10-Q November 1, 2017	3.2
<u>4.1</u>	Specimen certificate for the common stock		10-K March 2, 2018	4.1
<u>31.1</u>	Rule 13a-14(a)/15d-14(a) certification of principal executive officer	X		
<u>31.2</u>	Rule 13a-14(a)/15d-14(a) certification of principal financial officer	X		
<u>32.1</u>	Section 1350 certification of principal executive officer and principal financial officer	X		

The following financial information from KVH Industries, Inc.'s Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, 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 Loss (unaudited), (iv) the Consolidated Statement of Stockholders' Equity (unaudited), (v) the Consolidated Statements of Cash Flows (unaudited), and (vi) the Notes to Consolidated Financial Statements (unaudited).

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: May 2, 2019

KVH Industries, Inc.

By: /s/ DONALD W. REILLY

Donald W. Reilly

(Duly Authorized Officer and Chief Financial  
Officer)

## Exhibit Index

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