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: June 30, 2020
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)

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 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, 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 ☒

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**
July 27, 2020	Common Stock, par value $0.01 per share	18,010,758

KVH INDUSTRIES, INC. AND SUBSIDIARIES

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PART I. FINANCIAL INFORMATION

ITEM 1. Interim Financial Statements

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

	June 30, 2020	December 31, 2019
ASSETS	(unaudited)	
Current assets:		
Cash and cash equivalents	$ 21,443	$ 18,365
Marketable securities	22,498	29,907
Accounts receivable, net of allowance for doubtful accounts of $1,962 and $1,589 as of June 30, 2020 and December 31, 2019, respectively	28,563	32,891
Inventories, net	24,454	23,465
Prepaid expenses and other current assets	3,087	3,188
Current contract assets	1,357	1,458
Total current assets	101,402	109,274
Property and equipment, net	55,269	53,584
Intangible assets, net	4,195	4,943
Goodwill	14,691	15,408
Right of use asset operating lease	4,108	6,286
Other non-current assets	7,260	6,443
Non-current contract assets	3,021	3,408
Non-current deferred income tax asset	38	45
Total assets	**$ 189,984**	**$ 199,391**
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 12,195	$ 15,031
Accrued compensation and employee-related expenses	5,608	5,637
Accrued other	8,294	7,733
Accrued product warranty costs	2,137	2,194
Current portion of long-term debt	2,682	—
Contract liabilities	4,438	4,443
Current operating lease liability	1,339	2,831
Liability for uncertain tax positions	564	521
Total current liabilities	37,257	38,390
Other long-term liabilities	983	1,292
Long-term operating lease liability	2,803	3,482
Long-term contract liabilities	4,938	5,476
Long-term debt, excluding current portion	4,245	—
Non-current deferred income tax liability	770	762
Total liabilities	**$ 50,996**	**$ 49,402**
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, $0.01 par value. Authorized 30,000,000 shares; 19,445,221 and 19,398,699 shares issued at June 30, 2020 and December 31, 2019, respectively; and 18,012,527 and 18,001,261 shares outstanding at June 30, 2020 and December 31, 2019, respectively	194	194
Additional paid-in capital	146,250	144,485
Retained earnings	9,772	19,538
Accumulated other comprehensive loss	(5,377)	(2,767)
	150,839	161,450
Less: treasury stock at cost, common stock, 1,432,694 and 1,397,438 shares as of June 30, 2020 and December 31, 2019, respectively	(11,851)	(11,461)
Total stockholders' equity	**138,988**	**149,989**
Total liabilities and stockholders' equity	**$ 189,984**	**$ 199,391**

See accompanying Notes to Unaudited Consolidated Financial Statements.

KVH INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except earnings per share amounts, unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	**2019**	**2020**	**2019**
Sales:				
Product	$ 13,949	$ 15,189	$ 27,043	$ 28,404
Service	22,977	24,541	46,451	47,702
Net sales	36,926	39,730	73,494	76,106
Costs and expenses:				
Costs of product sales	9,554	12,649	19,190	20,933
Costs of service sales	14,378	15,379	29,573	30,752
Research and development	3,866	3,798	8,153	7,666
Sales, marketing and support	6,795	8,853	15,495	16,983
General and administrative	5,769	5,730	12,167	12,685
Total costs and expenses	40,362	46,409	84,578	89,019
Loss from operations	(3,436)	(6,679)	(11,084)	(12,913)
Interest income	217	1,000	530	1,175
Interest expense	3	558	7	943
Other (expense) income, net	(161)	339	1,341	242
Loss from continuing operations before income tax expense (benefit)	(3,383)	(5,898)	(9,220)	(12,439)
Income tax expense (benefit)	169	(2,604)	546	(2,648)
Net loss from continuing operations	$ (3,552)	$ (3,294)	$ (9,766)	$ (9,791)
Income from discontinued operations, net of tax	—	50,630	—	50,873
Net (loss) income	**$ (3,552)**	**$ 47,336**	**$ (9,766)**	**$ 41,082**
Net loss from continuing operations per common share				
Basic and diluted [a]	**$ (0.20)**	**$ (0.19)**	**$ (0.56)**	**$ (0.56)**
Net income from discontinued operations per common share				
Basic and diluted [a]	**$ 0.00**	**$ 2.90**	**$ 0.00**	**$ 2.93**
Net (loss) income per common share				
Basic and diluted [a]	**$ (0.20)**	**$ 2.71**	**$ (0.56)**	**$ 2.36**
Weighted average number of common shares outstanding:				
Basic and diluted	**17,648**	**17,463**	**17,588**	**17,383**

(a) Earnings per share components for 2019 do not sum due to rounding.

See accompanying Notes to Unaudited Consolidated Financial Statements.

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Net (loss) income	$ (3,552)	$ 47,336	$ (9,766)	$ 41,082
Other comprehensive (loss) income, net of tax:				
Foreign currency translation adjustment	(130)	10,151	(2,610)	11,231
Unrealized gain on derivative instruments, net	—	3	—	11
Other comprehensive (loss) income, net of tax[1]	(130)	10,154	(2,610)	11,242
Total comprehensive (loss) income	$ (3,682)	$ 57,490	$ (12,376)	$ 52,324

(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	Retained Earnings	Accumulated Other Comprehensive Loss	Treasury Stock		Total Stockholders' Equity
	Shares	Amount				Shares	Amount	
Balance at March 31, 2020	**19,419**	**$ 194**	**$ 145,457**	**$ 13,324**	**$ (5,247)**	**(1,433)**	**$ (11,851)**	**$ 141,877**
Net loss	—	—	—	(3,552)	—	—	—	(3,552)
Other comprehensive loss	—	—	—	—	(130)	—	—	(130)
Stock-based compensation	—	—	742	—	—	—	—	742
Exercise of stock options and issuance of restricted stock awards, net of forfeitures	26	—	51	—	—	—	—	51
Balance at June 30, 2020	**19,445**	**$ 194**	**$ 146,250**	**$ 9,772**	**$ (5,377)**	**(1,433)**	**$ (11,851)**	**$ 138,988**

	Common Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Treasury Stock		Total Stockholders' Equity
	Shares	Amount				Shares	Amount	
Balance at December 31, 2019	**19,399**	**$ 194**	**$ 144,485**	**$ 19,538**	**$ (2,767)**	**(1,397)**	**$ (11,461)**	**$ 149,989**
Net loss	—	—	—	(9,766)	—	—	—	(9,766)
Other comprehensive loss	—	—	—	—	(2,610)	—	—	(2,610)
Stock-based compensation	—	—	1,547	—	—	—	—	1,547
Issuance of common stock under employee stock purchase plan	20	—	156	—	—	—	—	156
Acquisition of treasury stock	—	—	—	—	—	(36)	(390)	(390)
Exercise of stock options and issuance of restricted stock awards, net of forfeitures	26	—	62	—	—	—	—	62
Balance at June 30, 2020	**19,445**	**$ 194**	**$ 146,250**	**$ 9,772**	**$ (5,377)**	**(1,433)**	**$ (11,851)**	**$ 138,988**

	Common Stock		Additional Paid-in Capital	(Accumulated Deficit) Retained Earnings	Accumulated Other Comprehensive Loss	Treasury Stock		Total Stockholders' Equity
	Shares	Amount				Shares	Amount	
Balance at March 31, 2019	**19,134**	**$ 191**	**$ 140,790**	**$ (19,971)**	**$ (13,643)**	**(1,282)**	**$ (10,164)**	**$ 97,203**
Net income	—	—	—	47,336	—	—	—	47,336
Other comprehensive income	—	—	—	—	10,154	—	—	10,154
Stock-based compensation	—	—	1,033	—	—	—	—	1,033
Exercise of stock options and issuance of restricted stock awards, net of forfeitures	186	2	33	—	—	—	—	35
Balance at June 30, 2019	**19,320**	**$ 193**	**$ 141,856**	**$ 27,365**	**$ (3,489)**	**(1,282)**	**$ (10,164)**	**$ 155,761**

	Common Stock		Additional Paid-in Capital	(Accumulated Deficit) Retained Earnings	Accumulated Other Comprehensive Loss	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 income	—	—	—	41,082	—	—	—	41,082
Other comprehensive income	—	—	—	—	11,242	—	—	11,242
ASC 606 correction (FN 16)	—	—	—	1,680	—	—	—	1,680
Stock-based compensation	—	—	1,907	—	—	—	—	1,907
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	271	3	114	—	—	—	—	117
Balance at June 30, 2019	**19,320**	**$ 193**	**$ 141,856**	**$ 27,365**	**$ (3,489)**	**(1,282)**	**$ (10,164)**	**$ 155,761**

See accompanying Notes to Unaudited Consolidated Financial Statements.

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

	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Cash flows from operating activities:		
Net (loss) income	$ (9,766)	$ 41,082
Adjustments to reconcile net (loss) income to net cash used in operating activities:		
Provision for doubtful accounts	482	(68)
Depreciation and amortization	5,402	6,412
Deferred income taxes	—	26
Loss on disposals of fixed assets	400	117
Gain on sale of Videotel	—	(54,520)
Compensation expense related to stock-based awards and employee stock purchase plan	1,547	1,907
Unrealized currency translation (gain) loss	(950)	746
Changes in operating assets and liabilities:		
Accounts receivable	3,739	(1,186)
Inventories	(993)	(1,308)
Prepaid expenses, other current assets, and current contract assets	161	2,055
Other non-current assets and non-current contract assets	(422)	876
Accounts payable	(2,395)	(22)
Contract liabilities and long-term contract liabilities	(460)	(2,803)
Accrued compensation, product warranty and other	365	1,031
Other long-term liabilities	4	(928)
Net cash used in operating activities	**$ (2,886)**	**$ (6,583)**
Cash flows from investing activities:		
Capital expenditures	(7,049)	(6,720)
Cash paid for acquisition of intangible asset	(40)	(37)
Proceeds from sale of fixed assets	6	103
Proceeds from sale of Videotel, net of cash sold	—	88,447
Purchases of marketable securities	(6,091)	(50,032)
Maturities and sales of marketable securities	13,500	—
Net cash provided by investing activities	**$ 326**	**$ 31,761**
Cash flows from financing activities:		
Repayments of mortgage loan	—	(2,597)
Proceeds from PPP loan	6,927	—
Repayments of term note borrowings	—	(21,938)
Repayments of line of credit borrowings	—	(13,000)
Proceeds from line of credit borrowings	—	10,000
Proceeds from stock options exercised and employee stock purchase plan	207	365
Repurchase of common stock	(390)	—
Payment of finance lease	(312)	(304)
Net cash provided by (used in) financing activities	**$ 6,432**	**$ (27,474)**
Effect of exchange rate changes on cash and cash equivalents	(794)	(448)
Net increase (decrease) in cash and cash equivalents	**3,078**	**(2,744)**
Cash and cash equivalents at beginning of period	**18,365**	**18,050**
Cash and cash equivalents at end of period	**$ 21,443**	**$ 15,306**
Supplemental disclosure of non-cash investing activities:		
Changes in accrued other and accounts payable related to property and equipment additions	**$ 128**	**$ 229**

See accompanying Notes to Unaudited Consolidated Financial Statements.

(1) Description of Business

KVH Industries, Inc. (together with its subsidiaries, the Company or KVH) designs, develops, manufactures and markets mobile connectivity products and services for the marine and land markets, and inertial navigation products for both the commercial and defense markets. 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 and Internet services, and live digital television via satellite services in marine vessels, recreational vehicles, buses and automobiles. 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.

KVH’s mobile connectivity service sales represent primarily sales earned from satellite voice and Internet airtime services. KVH provides, for monthly fixed and usage fees, satellite connectivity services, including broadband Internet, data and VoIP services, to its TracPhone V-series customers. AgilePlans, a mini-VSAT Broadband service offering, is a monthly 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 is retaining ownership of the hardware, it does not accrue any warranty costs for AgilePlans hardware; however, any maintenance costs on 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. 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.

On May 13, 2019, the Company and its wholly owned subsidiary, KVH Media Group Limited (KMG), entered into a Share Purchase Agreement (the Purchase Agreement) with Pelican Holdco Limited, an affiliate of Oakley Capital IV Master SCSp, a UK company (together, "Oakley"), pursuant to which KMG sold all of the issued share capital of Super Dragon Limited and Videotel Marine Asia Limited (together referred to as "Videotel") to Oakley for $89,387 in cash, on a cash-free, debt-free basis, subject to a working capital adjustment. Videotel comprised the Company’s maritime training business, which offered video, animation, eLearning computer-based training and interactive distance learning services to the maritime industry. The sale was completed immediately upon execution of definitive agreements. The Company received payment of the initial purchase price pursuant to a loan agreement (the "Bridge Loan") on June 21, 2019. The Bridge Loan was secured by a charge (a type of foreign security interest) over the shares of Super Dragon Limited and Videotel Marine Asia Limited and was further backed by an equity commitment letter from Oakley Capital IV Master SCSp. The Bridge Loan’s interest rate was 5% per year during the period from closing until and including the 15th business day after the closing and increased to 12% per year during the period after the 15th business day until the maturity date. In December 2019, the Company finalized the working capital adjustment, which reduced the proceeds from the sale of Videotel to $88,447. The Company does not have any continuing involvement in these operations other than to provide short-term transition services, which are being recorded in other income in continuing operations. The Company determined that the sale met the requirements for reporting as discontinued operations in accordance with Accounting Standards Codification (ASC) 205-20. Please see Note 20 for the discontinued operations disclosures.

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 interim 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 2019 consolidated interim financial statements reflect the sale of Videotel as discontinued operations. See Notes 1 and 20 for further information on the sale of Videotel.

The consolidated interim 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 interim 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, 2019 filed on February 28, 2020 with the Securities and Exchange Commission. The results for the three and six months ended June 30, 2020 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 interim 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 interim financial statements and the reported amounts of sales and expenses during the reporting periods. As described in the Company’s annual report on Form 10-K, the most significant estimates and assumptions by management affect the Company’s revenue recognition, valuation of accounts receivable, valuation of inventory, expected future cash flows including growth rates, discount rates, terminal values and other assumptions and estimates used to 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, forfeitures and 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, and the valuation of right-of-use assets and lease liabilities. The Company has reviewed these estimates and determined that these remain the most significant estimates for the six months ended June 30, 2020.

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.

During the second quarter of 2019, the Company sold Videotel. Please see Notes 1 and 20 for further discussion.

During the third quarter of 2019, the Company identified an out-of-period immaterial error related to the implementation and application of ASC 606 with respect to the recognition of revenue associated with sales-type leases, which impacted our June 30, 2019 consolidated interim financial statements. Please see Note 16 for further discussion.

(3) Accounting Standards Issued and Not Yet Adopted

ASC Update No. 2016-13, ASC Update No. 2018-19, ASC Update No. 2019-04, ASC Update No. 2019-05, ASC Update No. 2019-10, ASC Update No. 2019-11 and ASC Update No. 2020-02.

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 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: Financial Instruments – Credit Losses (Topic 326)*. 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.

In May 2019, the FASB issued ASC Update No. 2019-04, *Codification Improvements: Financial Instruments – Credit Losses (Topic 326), Derivatives and Hedging (Topic 815) and Financial Instruments (Topic 825).* This update introduced clarifications of the Board's intent with respect to accrued interest, the transfer between classifications or categories for loans and debt securities, recoveries, reinsurance recoverables, projects of interest rate environments for variable-rate financial instruments, costs to sell when foreclosure is probable, consideration of expected prepayments when determining the effective interest rate, vintage disclosures, and extension and renewal options.

In May 2019, the FASB issued ASC Update No. 2019-05, *Financial Instruments – Credit Losses* (*Topic 326*): *Targeted Transition Relief*. The amendments in the update ease the transition for entities adopting ASC Update 2016-13 and increase the comparability of financial statement information. With the exception of held-to-maturity debt securities, the amendments allow entities to irrevocably elect to apply the fair value option to financial instruments that were previously recorded at amortized cost basis within the scope of Subtopic 326-20, *Financial Instruments - Credit Losses - Measured at Amortized Cost*.

In November 2019, the FASB issued ASC Update No. 2019-10, *Financial Instruments – Credit Losses (Topic 326), Derivatives and Hedging (Topic 815), and Leases (Topic 842): Effective Dates.* The amendments in this update change some effective dates for certain new accounting standards for certain types of entities. The update amends ASC 326 and ASC 350's effective date for all SEC filers other than smaller reporting companies to be the fiscal years beginning after December 15, 2019, and interim periods therein. The effective date for all other entities, including smaller reporting companies, will be the fiscal years beginning after December 15, 2022, and interim periods therein. The update does not change the effective date of ASC 815 and ASC 842 for public business entities (PBEs), but amends the effective date for all other entities to be the fiscal years beginning after December 15, 2020, and interim periods within fiscal years beginning after December 15, 2021.

In November 2019, the FASB issued ASC Update No. 2019-11, *Codification Improvements: Financial Instruments – Credit Losses* (*Topic 326*)*.* The update is effective for entities that have adopted ASU 2016-13, and the amendments in ASU 2019-11 are effective for fiscal years beginning after December 15, 2019, and interim periods therein. Early adoption is permitted in any interim period after issuance of this update as long as an entity has adopted the amendments in Update 2016-13. The purpose of Update No. 2019-11 is to clarify the scope of the recovery guidance to purchased financial assets with credit deterioration.

In February 2020, the FASB issued ASC Update No. 2020-02, *Financial Instruments – Credit Losses (Topic 326) and Leases (Topic 842)*. The purpose of Update No. 2020-02 is to amend SEC paragraphs in the ASC that describe SEC guidance or SEC staff views that the Financial Accounting Standards Board (FASB) includes as a convenience to Codification users.

As a current smaller reporting entity, the effective date will be the fiscal years beginning after December 15, 2022. The adoption of Update Nos. 2016-13, 2018-19, 2019-04, 2019-05, 2019-10, 2019-11 and 2020-02 are not expected to have a material impact on the Company's financial position or results of operations.

ASC Update No. 2019-12

In December 2019, the FASB issued ASC Update No. 2019-12, *Income Taxes (Topic 740)*. The update is effective for public business entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020. Early adoption is permitted, including adoption in any interim period, for public business entities for periods for which interim financial statements have not yet been issued. The purpose of Update No. 2019-12 is to remove certain exceptions for recognizing deferred taxes for investments and simplify the accounting for income taxes in certain areas, including recognizing deferred taxes for tax goodwill and allocating taxes to members of a consolidated group. It amends the requirements relating to the accounting for "hybrid" tax regimes. Update No. 2019-12 is not expected to have a material impact on the Company's financial position or results of operations.

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

(4) Marketable Securities

Marketable securities as of June 30, 2020 and December 31, 2019 consisted of the following:

June 30, 2020	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market mutual funds	$ 22,498	$ —	$ —	$ 22,498
Total marketable securities designated as available-for-sale	$ 22,498	$ —	$ —	$ 22,498

December 31, 2019	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market mutual funds	$ 29,907	$ —	$ —	$ 29,907
Total marketable securities designated as available-for-sale	$ 29,907	$ —	$ —	$ 29,907

Interest income from marketable securities was $14 and $32 during the three months ended June 30, 2020 and 2019, respectively, and $127 and $32 during the six months ended June 30, 2020 and 2019, 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 $742 and $1,017 for the three months ended June 30, 2020 and 2019, respectively, and $1,531 and $1,877 for the six months ended June 30, 2020 and 2019, respectively. As of June 30, 2020, there was $2,412 of total unrecognized compensation expense related to stock options, which is expected to be recognized over a weighted-average period of 2.26 years. As of June 30, 2020, there was $2,598 of total unrecognized compensation expense related to restricted stock awards, which is expected to be recognized over a weighted-average period of 2.08 years.

Stock Options

During the three months ended June 30, 2020, 6 stock options were exercised for common stock. Additionally, during the three months ended June 30, 2020, no stock options were granted and 11 stock options expired, were canceled or were forfeited.

During the six months ended June 30, 2020, 6 stock options were exercised for common stock, $51 of which was delivered to the Company as payment for the exercise price and none of which were surrendered for minimum tax withholding obligations. Additionally, during the six months ended June 30, 2020, no stock options were granted and 106 stock options expired, were canceled or were forfeited. The Company has estimated the fair value of each option grant on the date of grant using the Black-Scholes option-pricing model. The weighted average assumptions utilized to determine the fair value of options granted during the six months ended June 30, 2020 and 2019 are as follows:

	Six months ended June 30,	
	2020	2019
Risk-free interest rate	0 %	1.93 %
Expected volatility	0 %	36.95 %
Expected life (in years)	0.00	4.27
Dividend yield	0 %	0 %

As of June 30, 2020, there were 1,512 options outstanding with a weighted average exercise price of $9.68 per share and 686 options exercisable with a weighted average exercise price of $9.51 per share.

Restricted Stock

During the three months ended June 30, 2020, 20 shares of restricted stock were granted with a weighted average grant date fair value of $9.09 per share and 0.37 shares of restricted stock were forfeited. Additionally, during the three months ended June 30, 2020, 119 shares of restricted stock vested, of which no shares of common stock were surrendered to the Company as payment by employees in lieu of cash to satisfy minimum tax withholding obligations in connection with the vesting of restricted stock.

During the six months ended June 30, 2020, 20 shares of restricted stock were granted with a weighted average grant date fair value of $9.09 per share and 0.37 shares of restricted stock were forfeited. Additionally, during the six months ended June 30, 2020, 221 shares of restricted stock vested, of which no shares of common stock were surrendered to the Company as payment by employees in lieu of cash to satisfy minimum tax withholding obligations in connection with the vesting of restricted stock.

As of June 30, 2020, there were 297 shares of restricted stock outstanding that were still subject to service-based vesting conditions.

As of June 30, 2020, the Company had no unvested outstanding options and no outstanding 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 and six months ended June 30, 2020, 0 and 20 shares were issued under the ESPP plan, respectively. During the three and six months ended June 30, 2019, 0 and 23 shares were issued under the ESPP plan, respectively. The Company recorded compensation charges related to the ESPP of $0 and $16 for the three months ended June 30, 2020 and 2019, respectively, and $16 and $30 for the six months ended June 30, 2020 and 2019, respectively.

(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 and six months ended June 30, 2020 and 2019:

	Three months ended June 30,		Six months ended June 30,	
	2020	2019	2020	2019
Cost of product sales	$ 34	$ 61	$ 74	$ 102
Research and development	137	196	290	368
Sales, marketing and support	139	212	293	394
General and administrative	432	564	890	1,043
	$ 742	**$ 1,033**	**$ 1,547**	**$ 1,907**

(d) Accumulated Other Comprehensive Loss (AOCI)

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).

The balances for the three months ended June 30, 2020 and 2019 are as follows:

	Foreign Currency Translation	Total Accumulated Other Comprehensive Loss
Balance, March 31, 2020	**$ (5,247)**	**$ (5,247)**
Other comprehensive loss	(130)	(130)
Net other comprehensive loss	(130)	(130)
Balance, June 30, 2020	**$ (5,377)**	**$ (5,377)**

	Foreign Currency Translation	Interest Rate Swaps	Total Accumulated Other Comprehensive Loss
Balance, March 31, 2019	**$ (13,640)**	**$ (3)**	**$ (13,643)**
Other comprehensive (loss) income before reclassifications	(1,332)	3	(1,329)
Amounts reclassified from AOCI	11,483	—	11,483
Net other comprehensive income	10,151	3	10,154
Balance, June 30, 2019	**$ (3,489)**	**$ —**	**$ (3,489)**

The balances for the six months ended June 30, 2020 and 2019 are as follows:

	Foreign Currency Translation	Total Accumulated Other Comprehensive Loss
Balance, December 31, 2019	**$ (2,767)**	**$ (2,767)**
Other comprehensive loss	(2,610)	(2,610)
Net other comprehensive loss	(2,610)	(2,610)
Balance, June 30, 2020	**$ (5,377)**	**$ (5,377)**

	Foreign Currency Translation		Interest Rate Swaps		Total Accumulated Other Comprehensive Loss	
Balance, December 31, 2018	**$**	**(14,720)**	**$**	**(11)**	**$**	**(14,731)**
Other comprehensive (loss) income before reclassifications		(252)		3		(249)
Amounts reclassified from AOCI		11,483		8		11,491
Net other comprehensive income		11,231		11		11,242
Balance, June 30, 2019	**$**	**(3,489)**	**$**	**—**	**$**	**(3,489)**

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 and six months ended June 30, 2020, since there was a net loss from continuing operations, the Company excluded all 1,271 and 1,302, respectively, in outstanding stock options and non-vested restricted shares from its diluted loss per share calculation, as inclusion of these securities would have reduced the net loss per share. For the three and six months ended June 30, 2019, since there was a net loss from continuing operations, the Company excluded all 978 and 959, 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 June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Weighted average common shares outstanding—basic	17,648	17,463	17,588	17,383
Dilutive common shares issuable in connection with stock plans	—	—	—	—
Weighted average common shares outstanding—diluted	17,648	17,463	17,588	17,383

(7) Inventories

Inventories, net are stated at the lower of cost and net realizable value using the first-in first-out costing method. Inventories as of June 30, 2020 and December 31, 2019 include the costs of material, labor, and factory overhead. Components of inventories consist of the following:

	June 30, 2020		December 31, 2019	
Raw materials	$	12,609	$	12,755
Work in process		3,196		3,117
Finished goods		8,649		7,593
	$	24,454	$	23,465

(8) Property and Equipment

Property and equipment, net, as of June 30, 2020 and December 31, 2019 consist of the following:

	June 30, 2020	December 31, 2019
Land	$ 3,828	$ 3,828
Building and improvements	24,210	24,172
Leasehold improvements	501	501
Machinery and equipment	18,635	18,022
Revenue-generating assets	51,910	47,010
Office and computer equipment	14,608	14,054
Motor vehicles	31	31
	113,723	107,618
Less accumulated depreciation	(58,454)	(54,034)
	$ 55,269	$ 53,584

Depreciation expense was $2,511 and $2,114 for the three months ended June 30, 2020 and 2019, respectively, and $4,913 and $4,207 for the six months ended June 30, 2020 and 2019, 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 June 30, 2020 and December 31, 2019, the Company had accrued product warranty costs of $2,137 and $2,194, respectively.

The following table summarizes product warranty activity during 2020 and 2019:

	Six Months Ended June 30,	
	2020	2019
Beginning balance	$ 2,194	$ 1,916
Charges to expense	701	1,169
Costs incurred	(758)	(904)
Ending balance	$ 2,137	$ 2,181

(10) Debt

	June 30, 2020	December 31, 2019
PPP loan	$ 6,927	$ —
Total long-term debt	6,927	—
Less amounts classified as current	2,682	—
Long-term debt, excluding current portion	$ 4,245	$ —

Paycheck Protection Program Loan

In May 2020, the Company received a $6,927 loan (the PPP Loan) from Bank of America, N.A., under the Paycheck Protection Program, which was established under the Coronavirus Aid, Relief, and Economic Security Act (as modified by the Paycheck Protection Flexibility Act of 2020, the CARES Act) and is administered by the U.S. Small Business Administration. The Company believes it has used the proceeds from the PPP Loan in accordance with the requirements of the CARES Act, primarily for payroll costs and to retain workers.

The term of the PPP Loan is two years from the funding date of the PPP Loan. The interest rate on the PPP Loan is 1.00%. Under the terms of the PPP Loan, interest accrues from the funding date of the PPP Loan but is deferred until the lender determines the amount of loan forgiveness, but the deferral period will end if the Company fails to apply for loan forgiveness within ten months after the loan forgiveness covered period. Principal and interest on the PPP Loan will be payable in monthly installments in accordance with the repayment letter when forgiveness has been determined. The promissory note evidencing the PPP Loan contains various events of default relating to, among other things, insolvency, bankruptcy or the like, payment defaults under the PPP Loan or other loans by the lender, certain defaults under other indebtedness, breach of representations and warranties, the occurrence of a material adverse event, changes in ownership, or breach of other provisions of the promissory note. Upon an event of default, all principal and accrued interest on the PPP Loan and any and all other loans made by the lender to the Company would at the lender’s option become immediately due and payable. The Company agreed that it will not receive any other loan under the Paycheck Protection Program.

Pursuant to the terms of the CARES Act, the Company can apply for and may be granted forgiveness for all or a portion of the PPP Loan, if and to the extent that the Company satisfies all of the requirements applicable to forgiveness of the PPP Loan. Such forgiveness will be determined in part based on the use of PPP Loan proceeds in accordance with the terms of the CARES Act during the 24-week period after loan origination and the maintenance or achievement of certain employee and compensation levels. The Company has not decided whether to apply for forgiveness and can provide no assurance that any portion of the PPP Loan will be forgiven should it seek forgiveness.

Term Note and Line of Credit

Effective October 30, 2018, the Company entered into an amended and restated 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 indebtedness under the Company’s then-outstanding senior credit facility agreement.

On May 13, 2019, the Company entered into a consent with Bank of America, N.A., as Administrative Agent, authorizing the Purchase Agreement and Bridge Loan, as discussed in Note 1. On June 27, 2019, the Company used the proceeds of the sale of Videotel to repay in full the then-outstanding balance of $21,375 under the 2018 Term Loan and to repay $13,000 of the then-outstanding balance under the 2018 Revolver. Under the terms of the consent, the 2018 Revolver will remain at $20,000 through the term of the 2018 Credit Agreement. On October 30, 2021, the entire principal balance of any outstanding loans under the 2018 Revolver will be due and payable, together with all accrued and unpaid interest, fees and any other amounts due and payable under the 2018 Credit Agreement. As of June 30, 2020, no amounts were outstanding under the 2018 Revolver.

Borrowings of up to $20,000 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 June 30, 2020, the Company is not able to draw on these funds due to covenant restrictions.

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 may not be greater than 2.50:1.00 on December 31, 2019 and declines to 2.00:1.00 on December 31, 2020. The Consolidated Fixed Charge Coverage Ratio may not be less than 1.25:1.00.

On July 30, 2020, the Company amended the senior credit facility to reflect the incurrence of the PPP Loan. Under the amended facility, the principal and interest on the PPP Loan are not included in the maximum Consolidated Leverage Ratio or the minimum Consolidated Fixed Charge Coverage Ratio calculations except as to any portion of the PPP Loan that is not ultimately forgiven.

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.

Mortgage Loan

The Company previously had a mortgage loan (Mortgage Loan) related to its headquarters facility in Middletown, Rhode Island. On April 1, 2019, on the Mortgage Loan’s original termination date, the Company repaid in full the outstanding balance of $2,551. As discussed in Note 17 to the consolidated interim financial statements, in April 2010 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. Both interest rate swap agreements were also settled upon repayment 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 directly attributable to either segment. These costs primarily consist of broad corporate functions, including executive, legal, finance, and costs associated with corporate actions. Segment-level asset information has not been provided as such information is not reviewed by the chief operating decision-maker for purposes of assessing segment performance and allocating resources. There are no inter-segment sales or transactions. As discussed in Note 1, the Company’s Videotel business, which had previously been included in the mobile connectivity segment, has been classified as discontinued operations and therefore excluded from the segment information below.

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

The mobile connectivity segment primarily manufactures and distributes a comprehensive family of mobile satellite antenna products and services that provide access to television, the Internet and voice services while on the move. Product sales within the mobile connectivity segment accounted for 18% and 22% of the Company's consolidated net sales for the three months ended June 30, 2020 and 2019, respectively, and 18% and 21% of the Company's consolidated net sales for the six months ended June 30, 2020 and 2019, respectively. Sales of mini-VSAT Broadband airtime service accounted for 55% and 48% of the Company's consolidated net sales for the three months ended June 30, 2020 and 2019, respectively, and 54% and 49% of the Company's consolidated net sales for the six months ended June 30, 2020 and 2019, 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 16% of the Company's consolidated net sales for each of the three months ended June 30, 2020 and 2019, and 15% of the Company's consolidated net sales for each of the six months ended June 30, 2020 and 2019.

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 57% and 51% of the Company's consolidated net sales for the three months ended June 30, 2020 and 2019, respectively, and 58% and 55% of the Company's consolidated net sales for the six months ended June 30, 2020 and 2019, respectively. No individual foreign country represented 10% or more of the Company's consolidated net sales for the three months ended June 30, 2020 or 2019. Sales to Singapore customers represented 10% of the Company's consolidated net sales for the six months ended June 30, 2020. No other individual foreign country represented 10% or more of the Company's consolidated net sales for the six months ended June 30, 2020. No individual foreign country represented 10% or more of the Company's consolidated net sales for the six months ended June 30, 2019.

As of June 30, 2020 and December 31, 2019, 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 income (loss) for the Company's reporting segments and the Company's loss before income tax expense (benefit) for the three and six months ended June 30, 2020 and 2019 were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Net sales:				
Mobile connectivity	$ 29,186	$ 31,469	$ 58,082	$ 60,383
Inertial navigation	7,740	8,261	15,412	15,723
Consolidated net sales	$ 36,926	$ 39,730	$ 73,494	$ 76,106
Operating income (loss):				
Mobile connectivity	$ 584	$ (2,365)	$ (1,715)	$ (3,808)
Inertial navigation	154	(247)	(667)	195
Subtotal	738	(2,612)	(2,382)	(3,613)
Unallocated, net	(4,174)	(4,067)	(8,702)	(9,300)
Loss from operations	(3,436)	(6,679)	(11,084)	(12,913)
Net interest and other income	53	781	1,864	474
Loss from continuing operations before income tax expense (benefit)	$ (3,383)	$ (5,898)	$ (9,220)	$ (12,439)

Depreciation expense and amortization expense for the Company's reporting segments for the three and six months ended June 30, 2020 and 2019 were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Depreciation expense:				
Mobile connectivity	$ 2,041	$ 1,669	$ 3,999	$ 3,339
Inertial navigation	323	307	616	594
Unallocated	147	138	298	274
Total consolidated depreciation expense	$ 2,511	$ 2,114	$ 4,913	$ 4,207
Amortization expense:				
Mobile connectivity	$ 241	$ 247	$ 489	$ 495
Inertial navigation	—	—	—	—
Unallocated	—	—	—	—
Total consolidated amortization expense	$ 241	$ 247	$ 489	$ 495

(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. The program was superseded on October 4, 2019. On October 4, 2019, the Company's Board of Directors authorized a new share repurchase program pursuant to which the Company may purchase up to 1,000 shares of the Company's common stock. The repurchase program is expected to be 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 a duration of one year. Under the Company's 2018 Credit Agreement, the Company may not repurchase more than $5,000 of shares before October 31, 2021 without appropriate consent.

During the three months ended June 30, 2020, no shares of common stock were repurchased in open market transactions. During the six months ended June 30, 2020, the Company repurchased 36 shares of common stock in open market transactions at a cost of approximately $390. The total amount the Company repurchased on the open market since the inception of the October 4, 2019 repurchase program was 151 shares of common stock for an approximate cost of $1,690. Except as noted above, there were no other repurchase programs outstanding.

(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 has no Level 2 assets or liabilities.

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 following tables present financial assets and liabilities at June 30, 2020 and December 31, 2019 for which the Company measures fair value on a recurring basis, by level, within the fair value hierarchy:

June 30, 2020	Total	Level 1	Level 2	Level 3	Valuation Technique
Assets					
Money market mutual funds	$ 22,498	$ 22,498	$ —	$ —	(a)

December 31, 2019	Total	Level 1	Level 2	Level 3	Valuation Technique
Assets					
Money market mutual funds	$ 29,907	$ 29,907	$ —	$ —	(a)

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

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 operating and financing lease liabilities approximates fair value based on currently available quoted rates of similarly structured borrowings.

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 June 30, 2020 or December 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 six months ended June 30, 2020:

	Amounts
Balance at December 31, 2019	$ 15,408
Foreign currency translation adjustment	(717)
Balance at June 30, 2020	$ 14,691

Intangible Assets

The changes in the carrying amount of intangible assets during the six months ended June 30, 2020 are as follows:

	Amounts
Balance at December 31, 2019	$ 4,943
Amortization expense	(489)
Intangible assets acquired in asset acquisition	40
Foreign currency translation adjustment	(299)
Balance at June 30, 2020	$ 4,195

Intangible assets arose from an acquisition made prior to 2013 and the acquisition of KVH Media Group (acquired as Headland Media Limited) in May 2013. Intangibles arising from the acquisition made prior to 2013 were 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 and (ii) 15 years for distribution rights. The intangibles arising from the KVH Media Group acquisition 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 June 30, 2020, the carrying value of the intangible assets acquired in the asset acquisition was $311. 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 six months ended June 30, 2020, $40 additional consideration was earned under the contingent consideration arrangement.

Acquired intangible assets are subject to amortization. The following table summarizes acquired intangible assets at June 30, 2020 and December 31, 2019, respectively:

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value
June 30, 2020			
Subscriber relationships	$ 7,751	$ 5,587	$ 2,164
Distribution rights	4,163	2,132	2,031
Internally developed software	446	446	—
Proprietary content	153	153	—
Intellectual property	2,284	2,284	—
	$ 14,797	$ 10,602	$ 4,195
December 31, 2019			
Subscriber relationships	$ 7,860	$ 5,231	$ 2,629
Distribution rights	4,313	1,999	2,314
Internally developed software	446	446	—
Proprietary content	153	153	—
Intellectual property	2,284	2,284	—
	$ 15,056	$ 10,113	$ 4,943

Amortization expense related to intangible assets was $241 and $247 for the three months ended June 30, 2020 and 2019, respectively, and $489 and $495 for the six months ended June 30, 2020 and 2019, respectively. Amortization expense was categorized as general and administrative expense.

As of June 30, 2020, the total weighted average remaining useful lives of the definite-lived intangible assets was 4.1 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	3.0
Distribution rights	7.8

Estimated future amortization expense remaining at June 30, 2020 for intangible assets acquired was as follows:

Years ending December 31,		
Remainder of 2020	$	479
2021		959
2022		959
2023		535
2024		302
Thereafter		961
Total future amortization expense	$	4,195

For definite lived 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. Like most companies, the COVID-19 global pandemic has impacted many areas of our operations and the Company is monitoring the impact of this global crisis carefully. The operations of our KVH Media Group have been particularly impacted due in part to the global reduction in travel resulting from the pandemic. Consequently, the Company has reviewed, and will continue to review, the forecasted revenues and cash flows of our content business for possible indications that the goodwill or other intangible assets associated with this component of our business might be impaired. At this point, our review continues to indicate that no impairment to the carrying value of these assets has occurred. However, it is uncertain how long the global pandemic will continue to disrupt global businesses, particularly travel, and therefore it is possible that the value of these assets may become impaired in the future if the COVID-19 pandemic worsens or continues for a prolonged period. As of June 30, 2020, the carrying value of goodwill and other intangible assets associated with the KVH Media Group was $10,290 and $4,195, respectively.

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

The adoption of ASC 606 represents a change in accounting principle that was intended to more closely align revenue recognition with the delivery of the Company's products and services and provide 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 which the Company expects to be entitled to receive in exchange for these products and services.

During the three months ended September 30, 2019, the Company identified an out-of-period immaterial error related to the implementation and application of ASC 606 with respect to the recognition of revenue associated with sales-type leases. During the implementation of ASC 606 effective January 1, 2018, the Company treated the leased products and services for these contracts as single performance obligations as if they were not distinct in the context of the contract; however, the leased product portion should have continued to have been accounted for under ASC 840 (now ASC 842). In general, the error was to defer recognition of product revenue and associated expenses for sales-type leases rather than to recognize those items upon shipment. The following table reflects these financial statement line items for the three and six months ended June 30, 2019, as reported and as adjusted (in thousands):

	Three Months Ended June 30, 2019		**Six Months Ended June 30, 2019**	
	As reported	**As adjusted**	**As reported**	**As adjusted**
Product sales	$ 14,694	$ 15,189	$ 27,568	$ 28,404
Cost of product sales	12,308	12,649	20,161	20,933
Net loss	(3,454)	(3,294)	(9,876)	(9,791)

The Company has evaluated this error and does not believe the amounts are material for the periods impacted.

Disaggregation of Revenue

The following table summarizes net sales from contracts with customers for the three and six months ended June 30, 2020 and 2019:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	**2019**	**2020**	**2019**
Mobile connectivity product, transferred at point in time	$ 6,080	$ 8,074	$ 12,066	$ 14,996
Mobile connectivity product, transferred over time [(a)]	623	489	1,229	970
Mobile connectivity service	22,483	22,906	44,787	44,417
Inertial navigation product	7,246	6,626	13,748	12,438
Inertial navigation service	494	1,635	1,664	3,285
Total net sales	$ 36,926	$ 39,730	$ 73,494	$ 76,106

(a) reflects the correction above

Revenue recognized during the three months ended June 30, 2020 and 2019 from amounts included in contract liabilities at the beginning of the period was $610 and $434, respectively. Revenue recognized during the six months ended June 30, 2020 and 2019 from amounts included in contract liabilities at the beginning of the period was $1,216 and $907, 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 three or six months ended June 30, 2020 or 2019 or accounts receivable at June 30, 2020 or December 31, 2019.

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 expired 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 (loss) income (AOCI) to the extent the derivative is effective at offsetting the changes in the cash flows being hedged until the hedged item affects earnings. As the Company made the required principal and interest payments under the mortgage loan and the related interest rate swaps were settled, the Company reclassified the amounts recorded in AOCI related to the changes in the fair value of the settled interest rate swaps to earnings. To the extent there was any hedge ineffectiveness, changes in fair value relating to the ineffective portion were 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. On April 1, 2019, the two interest rate swaps matured and the Company made its final payment for its mortgage loan thereafter.

(18) Income Taxes

The Company’s effective tax rate for the three and six months ended June 30, 2020 was (5.0)% and (5.9)%, respectively, compared with 44.2% and 21.3% for the corresponding periods in the prior year, respectively. 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 and six months ended June 30, 2020 and the six months ended June 30, 2019, the effective tax rates were lower than the statutory tax rate primarily due to the Company maintaining a valuation allowance reserve on its US deferred tax assets and to the composition of income from foreign jurisdictions taxed at lower rates. For the three months ended June 30, 2019, the effective tax rate was higher than the statutory tax rate primarily due to the Company release of the valuation allowance against the discontinued operations tax expense.

As of June 30, 2020 and December 31, 2019, the Company had reserves for uncertain tax positions of $564 and $521, respectively. There were no material changes during the six months ended June 30, 2020 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 June 30, 2020 may decrease $33 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 2016, 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 has operating leases for office facilities, equipment, and satellite service capacity and related equipment. Lease expense was $991 and $1,267 for the three months ended June 30, 2020 and 2019, respectively, and was $2,253 and $2,532 for the six months ended June 30, 2020 and 2019, respectively. Short-term operating lease costs was $62 and $47 for the three months ended June 30, 2020 and 2019, respectively, and was $123 and $95 for the six months ended June 30, 2020 and 2019, respectively. Sublease income was $33 and $32 for the three months ended June 30, 2020 and 2019, respectively, and was $67 and $66 for the six months ended June 30, 2020 and 2019, respectively. The future minimum lease payments under our operating leases as of June 30, 2020 are:

Remainder of 2020	$	815
2021		1,395
2022		1,300
2023		465
2024 and thereafter		595
Total minimum lease payments	$	4,570
Less amount representing interest	$	(428)
Present value of net minimum operating lease payments	$	4,142
Less current installments of obligation under current-operating lease liabilities	$	1,339
Obligations under long-term operating lease liabilities, excluding current installments	$	2,803
Weighted-average remaining lease term - operating leases (years)		3.46
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 June 30, 2020, the gross costs and accumulated amortization associated with this lease are included in revenue generating assets and amounted to $3,068 and $1,065, 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 $109 for both the three months ended June 30, 2020 and 2019 and was $219 for both the six months ended June 30, 2020 and 2019.

The future minimum lease payments under this financing lease as of June 30, 2020 are:

Remainder of 2020	$	312
2021		624
2022		624
2023		45
Total minimum lease payments	$	1,605
Less amount representing interest	$	(14)
Present value of net minimum financing lease payments	$	1,591
Less current installments of obligation under accrued other	$	616
Obligations under other long-term liabilities, excluding current installments	$	975
Weighted-average remaining lease term - finance leases (years)		2.67
Weighted-average discount rate - finance leases		1.53 %

Lessor

The Company enters into leases with certain customers primarily of the TracPhone mini-VSAT systems. These leases are classified as sales-type leases as title of the equipment transfers to the customer at the end of the lease term. The Company records the leases at a price typically equivalent to normal selling price and in excess of the cost or carrying amount. Upon delivery, the Company records the net present value of all payments under these leases as revenue, and the related costs of the product are charged to cost of sales. Interest income is recognized throughout the lease term (typically three to five years) using an implicit interest rate. The sales-type leases do not have unguaranteed residual assets.

The current portion of the net investment in these leases was $4,322 as of June 30, 2020 and the non-current portion of the net investment in these leases was $7,229 as of June 30, 2020. The current portion of the net investment in the leases is included in accounts receivable, net of allowance for doubtful accounts on the accompanying consolidated balance sheets and the non-current portion of the net investment in these leases is included in other non-current assets on the accompanying consolidated balance sheets. Interest income from sales-type leases was $203 and $400 during the three and six months ended June 30, 2020, respectively, and was $163 and $331 during the three and six months ended June 30, 2019.

The future undiscounted cash flows from these leases as of June 30, 2020 are:

Remainder of 2020	$	3,036
2021		3,694
2022		2,776
2023		2,152
2024		1,380
2025	$	206
Total undiscounted cash flows	$	13,244
Present value of lease payments	$	11,551
Difference between undiscounted cash flows and discounted cash flows	$	1,693

(20) Discontinued Operations

During the second quarter of 2019, the Company sold its Videotel business. The Company determined that the sale met the requirements for reporting as discontinued operations in accordance with Accounting Standards Codification (ASC) 205-20. Please see Note 1 for further discussion.

The following table presents a reconciliation of the major financial line items constituting the results for discontinued operations to the net income from discontinued operations, net of tax, presented separately in the Company's consolidated statements of operations and comprehensive income (loss):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Sales:				
Service sales	$ —	$ 1,832	$ —	$ 5,769
Costs, expenses and other expense, net:				
Costs of service sales	—	483	—	1,807
Sales, marketing and support	—	437	—	1,606
General and administrative	—	494	—	1,619
Other (expense) income, net	—	(14)	—	(23)
Income from discontinued operations before tax expense	—	404	—	714
Gain on sale of discontinued operations before tax expense	—	54,520	—	54,520
Total income from discontinued operations before tax expense	$ —	$ 54,924	$ —	$ 55,234
Income tax expense on discontinued operations	—	4,294	—	4,361
Income from discontinued operations, net of taxes	$ —	$ 50,630	$ —	$ 50,873
Net income from discontinued operations per common share				
Basic and diluted	**$ —**	**$ 2.90**	**$ —**	**$ 2.93**
Weighted average number of common shares outstanding:				
Basic and diluted	**17,648**	**17,463**	**17,588**	**17,383**

The following table presents supplemental cash flow information of the discontinued operations:

	Six Months Ended June 30,	
	2020	2019
Cash used in operating activities—discontinued operations	$ —	$ (1,838)
Cash provided by investing activities—discontinued operations	$ —	$ 87,986

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

Introduction

The statements included in this quarterly report on Form 10-Q, other than statements of historical fact, are forward-looking statements. Examples of forward-looking statements include statements regarding our future financial results, operating results, business strategies, projected costs, products and services, competitive positions and plans, customer preferences, consumer trends, anticipated product development, and objectives of management for future operations. In some cases, forward-looking statements can be identified by terminology such as "may," "will," "should," "would," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "continue," or the negative of these terms or other comparable terminology. Any expectations based on these forward-looking statements are subject to risks and uncertainties and other important factors, including those discussed in the section entitled "Risk Factors" in Item 1A of Part II of this quarterly report on Form 10-Q and in Item 1A of Part I of our annual report on Form 10-K for the year ended December 31, 2019. 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 interim 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. Our reporting segments are as follows:

- the mobile connectivity segment and
- the inertial navigation segment

Through these segments, we manufacture and sell our solutions in a number of major geographic areas, including internationally. We generate a majority of our revenues from various international locations, primarily consisting of Canada, Europe (both inside and outside the European Union), Africa, Asia/Pacific, and the Middle East.

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. 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. 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 62% for each of the three months ended June 30, 2019 and 2020 and were 63% for each of the six months ended June 30, 2019 and 2020.

Within the mobile connectivity segment, our marine leisure business 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.

Sale of Videotel - Discontinued Operations

In May 2019, we sold our Videotel business, which provided eLearning computer-based training, to an affiliate of Oakley Capital, a UK company, for $89.4 million in cash, on a cash-free, debt-free basis, subject to a working capital adjustment. We made a bridge loan to the purchaser and received payment of the initial purchase price on June 21, 2019. We determined that the sale met the requirements for reporting as discontinued operations in accordance with ASC 205-20. Accordingly, we have classified the results of the Videotel business as discontinued operations for all periods presented. In December 2019, we finalized the working capital adjustment which reduced the proceeds from the sale of Videotel to $88.4 million. Please see Notes 1 and 20 for further discussion.

Out-of-Period Error

Each of mobile connectivity product sales, costs of product sales, sales, marketing and support expense, income tax benefit and net loss from continuing operations for the three and six months ended June 30, 2019 includes an adjustment to correct an immaterial prior period accounting error related to the implementation and application of ASC 606. See Note 16 of our consolidated interim financial statements for more information.

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 June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	(in thousands)		(in thousands)	
Mobile connectivity	$ 29,186	$ 31,469	$ 58,082	$ 60,383
Inertial navigation	7,740	8,261	15,412	15,723
Net sales	$ 36,926	$ 39,730	$ 73,494	$ 76,106

Product sales within the mobile connectivity segment accounted for 18% and 22% of our consolidated net sales for the three months ended June 30, 2020 and 2019, respectively, and 18% and 21% of our consolidated net sales for the six months ended June 30, 2020 and 2019, respectively. Sales of mini-VSAT Broadband airtime service accounted for 55% and 48% of our consolidated net sales for the three months ended June 30, 2020 and 2019, respectively, and 54% and 49% of our consolidated net sales for the six months ended June 30, 2020 and 2019, respectively.

Within our inertial navigation segment, net sales of FOG-based guidance and navigation systems accounted for 16% of our consolidated net sales for each of the three months ended June 30, 2020 and 2019, and 15% of our consolidated net sales for each of the six months ended June 30, 2020 and 2019.

No other single product class accounted for 10% or more of our consolidated net sales for the three months ended June 30, 2020 or 2019 or the six months ended June 30, 2020 or 2019. No individual customer accounted for 10% or more of our consolidated net sales for the three months ended June 30, 2020 or 2019 or the six months ended June 30, 2020 or 2019.

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 57% and 51% of our consolidated net sales for the three months ended June 30, 2020 and 2019, respectively, and 58% and 55% of our consolidated net sales for the six months ended June 30, 2020 and 2019, respectively. No individual foreign country represented 10% or more of our consolidated net sales for the three months ended June 30, 2020 or 2019. Sales to Singapore customers represented 10% of our consolidated net sales for the six months ended June 30, 2020. No other individual foreign country represented 10% or more of our consolidated net sales for the six months ended June 30, 2020. No individual foreign country represented 10% or more of our consolidated net sales for the six months ended June 30, 2019. See Note 11 to our consolidated interim 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 June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	(in thousands)		(in thousands)	
Research and development expense presented on the statement of operations	$ 3,866	$ 3,798	$ 8,153	$ 7,666
Costs of customer-funded research and development included in costs of service sales	602	1,700	1,436	2,748
Total consolidated statements of operations expenditures on research and development activities	$ 4,468	$ 5,498	$ 9,589	$ 10,414

COVID-19 Global Pandemic

The COVID-19 pandemic continues to disrupt businesses around the world and has resulted in a global economic downturn. The impact of the pandemic on our operating results began in the first quarter and continued throughout the second quarter and beyond, particularly in areas of our business impacted by global commerce (for example, maritime shipping, travel and leisure). We do not know how long the pandemic will continue or what the ongoing economic impact will be on our business. The areas of our business most at risk of being negatively impacted by the prolonged continuation of this crisis continue to include our mobile connectivity product and service sales, as commercial customers continue to delay acquiring mini-VSAT systems due to the global reduction in maritime shipping, and our media business, due to the severe restrictions on domestic and international travel. Similarly, our inertial navigation product sales have been and may continue to be negatively impacted as domestic and foreign customers decide to conserve cash in their own businesses in the face of the prolonged continuation of the crisis. In response to these significant uncertainties, in our second quarter we undertook multiple steps to mitigate the impact of the pandemic on our business, including a comprehensive reduction in salaries and wages and the elimination of most discretionary expenditures, including capital expenditures, and we continue to consider further actions, which may include furloughing some level of our global workforce. As part of our mitigation efforts, we applied for, and received, assistance made available by the United States government through the Paycheck Protection Program (PPP) under the Coronavirus Aid, Relief, and Economic Security Act (the CARES Act).

As of June 30, 2020, our cash, cash equivalents and marketable securities (“cash position”) approximated $43.9 million, which reflects the impact of a $6.9 million loan (the PPP Loan) we received from Bank of America, N.A., under the Paycheck Protection Program. While there can be no assurance that our current cash position will sustain us through the duration of the pandemic, we believe that, on the basis of our current expectations, our current cash position, and the mitigation actions we have taken or could take may enable us to withstand the impact of this global health crisis. We are continuing to monitor global developments and are prepared to implement further actions that we determine to be necessary to sustain our business.

Critical Accounting Policies and Significant Estimates

The discussion and analysis of our financial condition and results of operations are based upon our consolidated interim financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these interim 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 interim 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, 2019.

As described in our annual report on Form 10-K for the year ended December 31, 2019, 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, 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, forfeitures and 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, and the valuation of right-of-use assets and lease liabilities. We have reviewed our policies and estimates and determined that these remain our most critical accounting policies and estimates for the six months ended June 30, 2020.

Readers should refer to our annual report on Form 10-K for the year ended December 31, 2019 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 interim 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 June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Sales:				
Product	37.8 %	38.2 %	36.8 %	37.3 %
Service	62.2	61.8	63.2	62.7
Net sales	100.0	100.0	100.0	100.0
Cost and expenses:				
Costs of product sales	25.9	31.8	26.1	27.5
Costs of service sales	38.9	38.7	40.2	40.4
Research and development	10.5	9.6	11.1	10.1
Sales, marketing and support	18.4	22.3	21.1	22.3
General and administrative	15.6	14.4	16.6	16.7
Total costs and expenses	109.3	116.8	115.1	117.0
Loss from operations	(9.3)	(16.8)	(15.1)	(17.0)
Interest income	0.6	2.5	0.7	1.5
Interest expense	—	1.4	—	1.2
Other (expense) income, net	(0.4)	0.9	1.8	0.3
Loss before income tax	(9.1)	(14.8)	(12.6)	(16.4)
Income tax expense (benefit)	0.5	(6.6)	0.7	(3.5)
Net loss	(9.6)%	(8.2)%	(13.3)%	(12.9)%

Three months ended June 30, 2020 and 2019

Net Sales

As discussed further under the heading "Segment Discussion" below, product sales decreased $1.2 million, or 8%, to $13.9 million for the three months ended June 30, 2020 from $15.2 million for the three months ended June 30, 2019, primarily due to a decrease in mobile connectivity product sales of $1.9 million, partially offset by an increase of $0.6 million in inertial navigation product sales. Service sales for the three months ended June 30, 2020 decreased $1.6 million, or 6%, to $23.0 million from $24.5 million for the three months ended June 30, 2019, primarily due to a decrease in inertial navigation service sales of $1.1 million and a decrease in mobile connectivity 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 decreased by $4.1 million, or 15%, in the three months ended June 30, 2020 to $23.9 million from $28.0 million in the three months ended June 30, 2019. The decrease in costs of sales was driven by a $3.1 million decrease in costs of product sales and a $1.0 million decrease in costs of service sales. As a percentage of net sales, costs of sales were 65% and 71% for the three months ended June 30, 2020 and 2019, respectively.

Our costs of product sales consist primarily of materials, manufacturing overhead, and direct labor used to produce our products. For the three months ended June 30, 2020, costs of product sales decreased by $3.1 million, or 24%, to $9.6 million from $12.6 million in the three months ended June 30, 2019. As a percentage of product sales, costs of product sales were 68% and 83% for the three months ended June 30, 2020 and 2019, respectively. Mobile connectivity costs of product sales decreased by $3.0 million, or 36%, and mobile connectivity costs of product sales as a percentage of mobile connectivity product sales were 79% and 97% for the three months ended June 30, 2020 and 2019, respectively. The decrease was primarily driven by a $2.1 million inventory reserve recorded during the three months ended June 30, 2019 relating to our TracPhone V-IP products based on our decision to cease promoting sales of these products in order to focus our efforts on migrating customers to our HTS network and products. Inertial navigation costs of product sales decreased by $0.1 million, or 3%, primarily due to a $0.3 million decrease in our FOG costs of product sales, partially offset by a $0.2 million increase in TACNAV cost of product sales. As a percentage of inertial navigation product sales, costs of inertial navigation product sales were 58% and 67% for the three months ended June 30, 2020 and 2019, respectively.

Our costs of service sales consist primarily of satellite service capacity, depreciation, service network overhead expense associated with our mini-VSAT Broadband network infrastructure, direct network service labor, Inmarsat service costs, product installation costs, engineering and related direct costs associated with customer-funded research and development, media materials and distribution costs, and service repair materials. For the three months ended June 30, 2020, costs of service sales decreased by $1.0 million, or 7%, to $14.4 million from $15.4 million for the three months ended June 30, 2019. As a percentage of service sales, costs of service sales were 63% for each of the three months ended June 30, 2020 and 2019. Mobile connectivity costs of service sales decreased by $0.5 million, or 3%, primarily due to a decrease in contract engineering service revenues. As a percentage of mobile connectivity service sales, costs of mobile connectivity service sales were 61% and 62% for the three months ended June 30, 2020 and 2019, respectively. Inertial navigation costs of service sales decreased by $0.5 million, or 44%, primarily due to a decrease in contract engineering services revenues. As a percentage of inertial navigation service sales, costs of inertial navigation service sales were 134% and 75% for the three months ended June 30, 2020 and 2019, respectively. The increase in costs on inertial navigation service sales to 134% was due to unanticipated costs relating to an engineering and services development contract from a major U.S. defense contractor

Operating Expenses

Research and development expense consists of direct labor, materials, external consultants, and related overhead costs that support our internally funded product development and product sustaining engineering activities. Research and development expense for the three months ended June 30, 2020 increased by $0.1 million, or 2%, to $3.9 million from $3.8 million for the three months ended June 30, 2019. The primary reason for the increase in research and development expense was a decrease in funded engineering expenses (which are reflected in costs of service sales rather than research and development expense), offset by a $0.3 million decrease in expensed materials and other miscellaneous expenses and a $0.2 million decrease in professional fees. As a percentage of net sales, research and development expense was 11% and 10% for the three months ended June 30, 2020 and 2019, respectively.

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 June 30, 2020 decreased by $2.1 million, or 23%, to $6.8 million from $8.9 million for the three months ended June 30, 2019. The decrease primarily resulted from a $0.6 million decrease in salaries and employee benefits and internal commissions, a $0.5 million decrease in warranty expenses, a $0.4 million decrease in marketing expenses, a $0.4 million decrease in external commissions and a $0.4 million decrease in travel and entertainment expenses, partially offset by a $0.3 million increase in bad debt expense. As a percentage of net sales, sales, marketing and support expense was 18% and 22% for the three months ended June 30, 2020 and 2019, respectively.

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 June 30, 2020 and 2019 remained essentially flat, at $5.8 million compared to $5.7 million, respectively. As a percentage of net sales, general and administrative expense was 16% and 14% for the three months ended June 30, 2020 and 2019, respectively.

Interest and Other Income, (Expense) Net

Interest income represents interest earned on our cash and cash equivalents, as well as from investments. Interest income decreased $0.8 million for the three months ended June 30, 2020 to $0.2 million from $1.0 million for the three months ended June 30, 2019 primarily due to the interest earned during the three months ended June 30, 2019 related to the note receivable from Oakley Capital in connection with our sale of Videotel and interest related to our marketable securities. Interest expense decreased $0.6 million for the three months ended June 30, 2020 to less than $0.1 million from $0.6 million for the three months ended June 30, 2019 primarily due to the decrease in interest paid on our term note, which we repaid at the end of the second quarter of 2019. Other expense, net decreased to $0.2 million for the three months ended June 30, 2020 from other income, net of $0.3 million for the three months ended June 30, 2019 primarily due to an increase in foreign exchange losses from our UK operations.

Income Tax Expense (Benefit)

Income tax expense for the three months ended June 30, 2020 was $0.2 million and related to taxes on income earned in foreign jurisdictions. Income tax benefit for the three months ended June 30, 2019 was $2.6 million and related to the valuation allowance release against discontinued operations. The losses we incurred in the U.S. did not generate any income tax benefit during either quarter due to a full valuation allowance on our related deferred tax assets generated in connection with losses.

Discontinued Operations

During the second quarter of 2019, we sold our Videotel business for $89.4 million in cash, on a cash-free, debt-free basis, subject to a working capital adjustment. We determined that the sale met the requirements for reporting as discontinued operations in accordance with ASC 205-20. Accordingly, we have classified the results of the Videotel business as discontinued operations for all periods presented. In December 2019, we finalized the working capital adjustment, which reduced the proceeds from the sale of Videotel to $88.4 million. Please see Notes 1 and 20 of our consolidated interim financial statements for further information. Results for discontinued operations are as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Sales from discontinued operations	$ —	$ 1,832	$ —	$ 5,769
Income from discontinued operations, net tax	$ —	$ 50,630	$ —	$ 50,873

Segment Discussion - Three months ended June 30, 2020 and 2019

Our net sales by segment for the three months ended June 30, 2020 and 2019 were as follows:

	For the three months ended June 30,		Change 2020 vs. 2019	
	2020	2019	$	%
	(dollars in thousands)			
Mobile connectivity sales:				
Product	$ 6,703	$ 8,563	$ (1,860)	(22)%
Service	22,483	22,906	(423)	(2)%
Net sales	$ 29,186	$ 31,469	$ (2,283)	(7)%
Inertial navigation sales:				
Product	$ 7,246	$ 6,626	$ 620	9 %
Service	494	1,635	(1,141)	(70)%
Net sales	$ 7,740	$ 8,261	$ (521)	(6)%

Operating income (loss) by segment for the three months ended June 30, 2020 and 2019 were as follows:

	For the three months ended June 30,		Change 2020 vs. 2019	
	2020	2019	$	%
	(dollars in thousands)			
Mobile connectivity	$ 584	$ (2,365)	$ 2,949	125 %
Inertial navigation	154	(247)	401	162 %
	$ 738	$ (2,612)	$ 3,350	128 %
Unallocated	(4,174)	(4,067)	(107)	(3)%
Loss from operations	$ (3,436)	$ (6,679)	$ 3,243	49 %

Mobile Connectivity Segment

Net sales in the mobile connectivity segment decreased by $2.3 million for the three months ended June 30, 2020 as compared to the three months ended June 30, 2019. Mobile connectivity product sales decreased by $1.9 million to $6.7 million for the three months ended June 30, 2020 from $8.6 million for the three months ended June 30, 2019. The decrease in mobile connectivity product sales was primarily due a $1.5 million decrease in TracVision product sales and a $0.2 million decrease in land mobile product sales. The decrease in TracVision and land mobile product sales was due to a decline in leisure sales.

Mobile connectivity service sales decreased by $0.4 million, or 2%, to $22.5 million for the three months ended June 30, 2020 from $22.9 million for the three months ended June 30, 2019. The decrease was primarily due to a $0.9 million decrease in our content service sales and a $0.5 million decrease in our contract engineering service revenue. Partially offsetting these decreases was a $1.1 million increase in our mini-VSAT service sales, which resulted in part from a 6% increase in subscribers, primarily as a result of AgilePlans.

Operating income for the mobile connectivity segment increased $2.9 million for the three months ended June 30, 2020 to an operating gain of $0.6 million as compared to an operating loss of $2.4 million for the three months ended June 30, 2019 primarily due to a $1.2 million increase in sales less associated costs, a $0.6 million decrease in other miscellaneous expenses, a $0.4 million decrease in warranty expenses, a $0.3 million decrease in travel and entertainment expenses, a $0.3 million decrease in marketing expenses, and a $0.2 million decrease in professional fees.

Inertial Navigation Segment

Net sales in the inertial navigation segment decreased $0.5 million, or 6%, for the three months ended June 30, 2020 as compared to the three months ended June 30, 2019. Inertial navigation product sales increased $0.6 million, or 9%, to $7.2 million for the three months ended June 30, 2020 from $6.6 million for the three months ended June 30, 2019, primarily as a result of a $0.8 million increase in TACNAV product sales, partially offset by a $0.2 million decrease in sales of our FOG and OEM products.

Inertial navigation service sales decreased $1.1 million, or 70%, to $0.5 million for the three months ended June 30, 2020 from $1.6 million for the three months ended June 30, 2019. The decrease was due to the timing of performance under 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 January 2021.

Our operating income for the inertial navigation segment increased $0.4 million to an operating gain of $0.2 million for the three months ended June 30, 2020 as compared to an operating loss of $0.2 million for the three months ended June 30, 2019, primarily due to an increase in sales less associated costs of $0.1 million.

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 increased $0.1 million, or 3%, for the three months ended June 30, 2020 as compared to the three months ended June 30, 2019.

Six months ended June 30, 2020 and 2019

Net Sales

As discussed further under the heading "Segment Discussion" below, product sales decreased $1.4 million, or 5%, to $27.0 million for the six months ended June 30, 2020 from $28.4 million for the six months ended June 30, 2019, primarily due to a decrease in mobile connectivity product sales of $2.7 million, partially offset by an increase in inertial navigation product sales of $1.3 million. Service sales for the six months ended June 30, 2020 decreased $1.3 million, or 3%, to $46.5 million from $47.7 million for the six months ended June 30, 2019 due to a decrease in inertial navigation service sales of $1.6 million, partially offset by an increase in mobile connectivity service sales of $0.4 million.

Costs of Sales

Costs of sales decreased by $2.9 million, or 6%, in the six months ended June 30, 2020 to $48.8 million from $51.7 million in the six months ended June 30, 2019. The decrease in costs of sales was driven by a $1.7 million decrease in costs of product sales and a $1.2 million decrease in costs of service sales. As a percentage of net sales, costs of sales was 66% and 68% for the six months ended June 30, 2020 and 2019, respectively.

For the six months ended June 30, 2020, costs of product sales decreased by $1.7 million, or 8%, to $19.2 million from $20.9 million in the six months ended June 30, 2019. As a percentage of product sales, costs of product sales were 71% and 74% for the six months ended June 30, 2020 and 2019, respectively. Mobile connectivity costs of product sales decreased by $3.0 million, or 22%, primarily due to a $2.7 million decrease in our marine mobile connectivity cost of product sales and a $0.3 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 were 78% and 84% for the six months ended June 30, 2020 and 2019, respectively. Inertial navigation costs of product sales increased by $1.3 million, or 17%, primarily due to a $0.8 million decrease in absorption of factory overhead due to a decrease in the volume of production and an increase in scrap and other manufacturing period costs and a $0.3 million increase in our TACNAV costs of product sales. Inertial navigation costs of product sales as a percentage of inertial navigation product sales was 64% and 60% for the six months ended June 30, 2020 and 2019, respectively.

For the six months ended June 30, 2020, costs of service sales decreased by $1.2 million, or 4%, to $29.6 million from $30.8 million for the six months ended June 30, 2019. As a percentage of service sales, costs of service sales were 64% and 65% for the six months ended June 30, 2020 and 2019, respectively. Mobile connectivity costs of service sales decreased by $0.4 million, or 1%, primarily due a $0.6 million decrease in costs associated with contract engineering service revenue, partially offset by a $0.3 million increase in mini-VSAT airtime costs of service sales. Mobile connectivity costs of service sales as a percentage of mobile connectivity service sales was 63% and 64% for the six months ended June 30, 2020 and 2019, respectively. Inertial navigation costs of service sales decreased by $0.8 million, or 34%, due to a decrease in contract engineering services sales. Inertial navigation costs of service sales as a percentage of inertial navigation service sales was 91% and 70% for the six months ended June 30, 2020 and 2019, respectively.

Operating Expenses

Research and development expense for the six months ended June 30, 2020 increased by $0.5 million, or 6%, to $8.2 million from $7.7 million for the six months ended June 30, 2019. The primary reason for the increase in research and development expense was a decrease in funded engineering expenses (which are reflected in costs of service sales rather than research and development expense), partially offset by a $0.3 million decrease in consulting fees. As a percentage of net sales, research and development expense was 11% and 10% for the six months ended June 30, 2020 and 2019, respectively.

Sales, marketing and support expense for the six months ended June 30, 2020 decreased by $1.5 million, or 9%, to $15.5 million from $17.0 million for the six months ended June 30, 2019. The decrease in sales, marketing and support expense resulted primarily from a $0.6 million decrease in travel expenses, a $0.5 million decrease in warranty expense, a $0.4 million decrease in marketing expenses, a $0.4 million decrease in external commissions and a $0.3 million decrease in salaries and employee benefits, partially offset by a $0.6 million increase in bed debt expense. As a percentage of net sales, sales, marketing and support expense was 21% and 22% for the six months ended June 30, 2020 and 2019, respectively.

General and administrative expense for the six months ended June 30, 2020 decreased by $0.5 million, or 4%, to $12.2 million from $12.7 million for the six months ended June 30, 2019. The decrease in general and administrative expense resulted primarily from a $0.4 million decrease in computer expenses and a $0.3 million decrease in salaries and employee benefits, partially offset by a $0.3 million increase in dues and subscriptions. As a percentage of net sales, general and administrative expense was 17% for both the six months ended June 30, 2020 and 2019.

Interest and Other Income, Net

Interest income decreased $0.6 million to $0.5 million for the six months ended June 30, 2020 from $1.2 million for the six months ended June 30, 2019. The decrease was primarily due to the interest earned during the six months ended June 30, 2019 related to the note receivable from Oakley Capital in connection with our sale of Videotel and interest related to our marketable securities. Interest expense decreased $0.9 million to less than $0.1 million for the six months ended June 30, 2020 from $0.9 million for the six months ended June 30, 2019 as a result of our repayment of substantially all of our interest-bearing debt obligations during the second quarter of 2019. Other income, net increased to $1.3 million for the six months ended June 30, 2020 from other income, net of $0.2 million for the prior period primarily due to an increase in foreign exchange gains from our UK operations.

Income Tax Expense (Benefit)

Income tax expense for the six months ended June 30, 2020 was $0.5 million and related to taxes on income earned in foreign jurisdictions. Income tax benefit for the six months ended June 30, 2019 was $2.6 million and related to the valuation allowance released against discontinued operations. The losses we incurred in the US did not generate any income tax benefit during either six-month period due to a full valuation allowance on our related deferred tax assets generated in the period.

Segment Discussion - Six months ended June 30, 2020 and 2019

Our net sales by segment for the six months ended June 30, 2020 and 2019 were as follows:

	For the six months ended June 30,		Change 2020 vs. 2019	
	2020	2019	$	%
	(dollars in thousands)			
Mobile connectivity sales:				
Product	$ 13,295	$ 15,966	$ (2,671)	(17)%
Service	44,787	44,417	370	1 %
Net sales	$ 58,082	$ 60,383	$ (2,301)	(4)%
Inertial navigation sales:				
Product	$ 13,748	$ 12,438	$ 1,310	11 %
Service	1,664	3,285	(1,621)	(49)%
Net sales	$ 15,412	$ 15,723	$ (311)	(2)%

Operating income (loss) by segment for the six months ended June 30, 2020 and 2019 were as follows:

	For the six months ended June 30,		Change 2020 vs. 2019	
	2020	2019	$	%
	(dollars in thousands)			
Mobile connectivity	$ (1,715)	$ (3,808)	$ 2,093	55 %
Inertial navigation	(667)	195	(862)	(442)%
	$ (2,382)	$ (3,613)	$ 1,231	34 %
Unallocated	(8,702)	(9,300)	598	6 %
Loss from operations	$ (11,084)	$ (12,913)	$ 1,829	14 %

Mobile Connectivity Segment

Net sales in the mobile connectivity segment decreased by $2.3 million for the six months ended June 30, 2020 as compared to the six months ended June 30, 2019. Mobile connectivity product sales decreased by $2.7 million to $13.3 million for the six months ended June 30, 2020 from $16.0 million for the six months ended June 30, 2019. The decrease was due to a $2.3 million decrease in marine mobile connectivity product sales, which was primarily driven by a decrease in TracVision product sales. In addition, there was a $0.4 million decrease in land mobile product sales. The decrease in TracVision and land mobile product sales was due to a decline in leisure sales.

Mobile connectivity service sales increased by $0.4 million, or 1%, to $44.8 million for the six months ended June 30, 2020 from $44.4 million for the six months ended June 30, 2019. The increase was primarily due to a $2.0 million increase in our mini-VSAT service sales compared to the six months ended June 30, 2019, which resulted in part from a 6% increase in subscribers, primarily as a result of AgilePlans. Partially offsetting this increase was a $1.0 million decrease in content service sales and a $0.5 million decrease in our contract engineering service revenue.

Operating loss for the mobile connectivity segment decreased by $2.1 million for the six months ended June 30, 2020 to an operating loss of $1.7 million as compared to an operating loss of $3.8 million for the six months ended June 30, 2019. This decrease resulted primarily from an increase in sales less associated costs of $1.1 million, a $0.5 million decrease in warranty expense, a $0.4 million decrease in travel expenses, a $0.4 million decrease in marketing expenses and a $0.3 million decrease in professional fees, partially offset by a $0.6 million increase in bad debt expense.

Inertial Navigation Segment

Net sales in the inertial navigation segment decreased $0.3 million, or 2%, for the six months ended June 30, 2020 as compared to the six months ended June 30, 2019. Inertial navigation product sales increased by $1.3 million, or 11%, to $13.7 million for the six months ended June 30, 2020 from $12.4 million for the six months ended June 30, 2019, primarily due to a $1.2 million increase in TACNAV product sales.

Inertial navigation service sales decreased $1.6 million, or 49%, to $1.7 million for the six months ended June 30, 2020 from $3.3 million for the six months ended June 30, 2019. The decrease was due to the timing of performance under 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 January 2021.

Our operating loss for the inertial navigation segment increased by $0.9 million to an operating loss of $0.7 million for the six months ended June 30, 2020 as compared to operating income of $0.2 million for the six months ended June 30, 2019. This increase was primarily due to the decrease in sales less associated costs of $0.8 million.

Unallocated

Unallocated operating loss decreased $0.6 million, or 6%, for the six months ended June 30, 2020 as compared to the six months ended June 30, 2019 primarily due to a $0.4 million decrease in computer expenses and a $0.3 million decrease in salaries and employee benefits.

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. Due to the generally rapid delivery of our commercial products, our backlog for those products is not significant.

Our backlog for all products and services was $21.6 million and $19.5 million as of June 30, 2020 and December 31, 2019, respectively. As of June 30, 2020, $15.6 million of our backlog was scheduled for fulfillment in 2020, $5.7 million was scheduled for fulfillment in 2021, and $0.2 million was scheduled for fulfillment in 2022 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 June 30, 2020, our backlog included $2.5 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 and capital expenditures. In recent years, we have funded our operations primarily from cash flows from operations, bank financing, an equity private placement, the proceeds received from exercises of stock options and in 2019 by selling our Videotel training business. In addition, we obtained approximately $6.9 million in cash in the second quarter of 2020 from a loan we obtained through the Paycheck Protection Program. We believe that we have sufficient cash to satisfy obligations that will come due over the next twelve months.

As of June 30, 2020, we had $43.9 million in cash, cash equivalents, and marketable securities, of which $2.8 million in cash and cash equivalents was held in local currencies by our foreign subsidiaries. Our foreign subsidiaries held no marketable securities as of June 30, 2020. As of June 30, 2020, we had $64.1 million in working capital.

Net cash used in operations was $2.9 million for the six months ended June 30, 2020 compared to net cash used in operations of $6.6 million for the six months ended June 30, 2019. The $3.7 million decrease in cash used in operations is primarily due to a $52.3 million increase in non-cash items, a $4.9 million increase in cash inflows relating to accounts receivable, a $2.3 million increase in cash inflows relating to deferred revenues, and a $0.9 million decrease of cash outflows relating to other non-current liabilities. Partially offsetting these items were a $50.8 million decrease in our net income, a $3.2 million increase in cash outflows relating to prepaid and other assets, a $2.4 million increase in cash outflows relating to accounts payable and a $0.7 million increase of cash outflows relating to product warranties. Net income in the six months ended June 30, 2019 included a $54.5 million pretax gain related to the sale of our Videotel marine training business.

Net cash provided by investing activities was $0.3 million for the six months ended June 30, 2020 compared to net cash provided in investing activities of $31.8 million for the six months ended June 30, 2019. The $31.5 million decrease in net cash provided by investing activities was principally due to the decrease of $88.4 million in net proceeds related to the sale of Videotel in May 2019 and a $0.4 million increase in capital expenditures. Partially offsetting these items was a $57.4 million increase in net cash inflows relating to the purchase and sale of marketable securities.

Net cash provided by financing activities was $6.4 million for the six months ended June 30, 2020 compared to net cash used by financing activities of $27.5 million for the six months ended June 30, 2019. The $33.9 million increase in net cash provided by financing activities is primarily attributable to the $34.5 million difference between cash inflows of $6.9 million from long-term debt in the six months ended June 30, 2020 compared to net cash outflows of $27.5 million for the repayment of line of credit, term note, and other long-term borrowings in the six months ended June 30, 2019. This increase in cash inflows was partially offset by a $0.4 million increase in cash outflows relating to the repurchase of treasury stock.

Borrowing Arrangements

Paycheck Protection Program Loan

In May 2020, we received a $6.9 million loan (the PPP Loan) from Bank of America, N.A., under the Paycheck Protection Program, which was established under the Coronavirus Aid, Relief, and Economic Security Act (as modified by the Paycheck Protection Flexibility Act of 2020, the CARES Act) and is administered by the U.S. Small Business Administration. We believe we have used the proceeds from the PPP Loan in accordance with the requirements of the CARES Act, primarily to fund payroll costs and to retain workers.

The term of the PPP Loan is two years from the funding date of the PPP Loan. The interest rate on the PPP Loan is 1.00%. Under the terms of the PPP Loan, interest accrues from the funding date of the PPP Loan but is deferred until the lender determines the amount of loan forgiveness, but the deferral period will end if we fail to apply for loan forgiveness within ten months after the loan forgiveness covered period. Principal and interest on the PPP Loan will be payable in monthly installments in accordance with the repayment letter when forgiveness has been determined. The promissory note evidencing the PPP Loan contains various events of default relating to, among other things, insolvency, bankruptcy or the like, payment defaults under the PPP Loan or other loans by the lender, certain defaults under other indebtedness, breach of representations and warranties, the occurrence of a material adverse event, changes in ownership, or breach of other provisions of the promissory note. Upon an event of default, all principal and accrued interest on the PPP Loan and any and all other loans made by the lender to us would at the lender's option become immediately due and payable. We agreed that we will not receive any other loan under the Paycheck Protection Program.

Pursuant to the terms of the CARES Act, we can apply for and may be granted forgiveness for all or a portion of the PPP Loan, if and to the extent that we satisfy all of the requirements applicable to forgiveness of the PPP Loan. Such forgiveness will be determined in part based on the use of PPP Loan proceeds in accordance with the terms of the CARES Act during the 24-week period after loan origination and the maintenance or achievement of certain employee and compensation levels. No decision has been made whether we will apply for forgiveness and we can provide no assurance that any portion of the PPP Loan will be forgiven should we apply for forgiveness.

Term Note and Line of Credit

Effective October 30, 2018, we entered into an amended and restated 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 $42.5 million, including a term loan (2018 Term Loan) of $22.5 million and a reducing revolving credit facility (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 indebtedness under our then-outstanding senior credit facility agreement.

On May 13, 2019, we entered into a consent with Bank of America, N.A., as Administrative Agent, authorizing the Purchase Agreement and Bridge Loan, as discussed in Note 1 to our consolidated interim financial statements. On June 27, 2019, we used the proceeds of the sale of Videotel to repay in full the then-outstanding balance of $21.4 million under the 2018 Term Loan and to repay $13.0 million of the then-outstanding balance under the 2018 Revolver. Under the terms of the consent, the 2018 Revolver will remain at $20.0 million through the term of the 2018 Credit Agreement. On October 30, 2021, the entire principal balance of any outstanding loans under the 2018 Revolver will be due and payable, together with all accrued and unpaid interest, fees and any other amounts due and payable under the 2018 Credit Agreement. As of June 30, 2020, no amounts were outstanding under the 2018 Revolver.

Borrowings of up to $20.0 million 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. As of June 30, 2020, we are not able to draw on these funds due to covenant restrictions.

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 may not be greater than 2.50:1.00 on December 31, 2019 and declines to 2.00:1.00 on December 31, 2020. The Consolidated Fixed Charge Coverage Ratio may not be less than 1.25:1.00.

On July 30, 2020, we amended the senior credit facility to reflect the incurrence of the PPP loan. Under the amended facility, the principal and interest on the PPP loan are not included in the maximum Consolidated Leverage Ratio or the minimum Consolidated Fixed Charge Coverage Ratio calculations except as to any portion of the PPP Loan that is not ultimately forgiven.

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.

Mortgage Loan

We previously had a mortgage loan (Mortgage Loan) related to its headquarters facility in Middletown, Rhode Island. On April 1, 2019, on the Mortgage Loan's original termination date, we repaid in full the outstanding balance of $2.6 million. As discussed in Note 17 to the consolidated interim financial statements, in April 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. Both interest rate swap agreements were also settled upon repayment of the Mortgage Loan

Other Matters

We intend to continue to invest in the mini-VSAT Broadband network on a global basis. As part of the future potential capacity expansion, we would plan to seek to acquire additional satellite capacity from satellite operators, expend funds to seek regulatory approvals and permits, develop product enhancements in anticipation of the expansion, and hire additional personnel. 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.

On November 26, 2008, our Board of Directors authorized a program to repurchase up to one million shares of our common stock. The program was superseded on October 4, 2019. On October 4, 2019, our Board of Directors authorized a new share repurchase program pursuant to which we may purchase up to one million shares of our common stock. The repurchase program is expected to be funded by 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 a duration of one year. Under the 2018 Credit Agreement, we may not repurchase more than $5.0 million of shares before October 31, 2021 without appropriate consent. As of June 30, 2020, we had repurchased 150,272 shares of our common stock in open market transactions at a cost of approximately $1.7 million. As of June 30, 2020, 849,728 shares of our common stock remain available for repurchase under the program. During the three months ended June 30, 2020, we did not repurchase any shares of common stock in open market transactions.

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 June 30, 2020, 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 June 30, 2020.

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 second quarter of 2020. 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 second quarter of 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Important Considerations

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

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

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

ITEM 1A. RISK FACTORS

This section augments and updates the risk factors disclosed in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2019, or the Annual Report. The following risk factors supersede the risks described in the Annual Report.

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

We have a history of losses and are uncertain when we may regain profitability.

We recorded substantial losses from continuing operations in the six months ended June 30, 2020 and the years ended December 31, 2019, 2018 and 2017. We expect to incur substantial losses in the near future as we confront the impact of the COVID-19 pandemic on our business, as we continue to bear the expenses of maintaining two satellite networks during the transition of our mini-VSAT customers from our legacy network to our HTS network, as we increase satellite capacity to handle our growing subscriber base, as we continue to shift our business from a model based primarily on product sales to a model based primarily on recurring revenue, and as we continue to invest in research and development to improve our existing products and develop new products, including our photonic chip-based fiber optic gyro. In upcoming quarters, we expect to invest substantially in the development of our photonic chip-based fiber optic gyro in an effort to take advantage of opportunities we may have in the autonomous vehicle and other markets. We expect that, as we increase our investments in these and other areas, including, for example, our Internet of Things (IoT) product, our losses will grow. Moreover, the sale of our profitable Videotel business in May 2019 has complicated our ability to reduce our losses and regain profitability. Although the sale of the Videotel business generated substantial proceeds that enabled us to reduce our indebtedness, the net proceeds from the sale will allow us to continue to incur significant operating losses for only a limited period of time. In order to regain profitability, we must successfully complete the transition of our mini-VSAT customers to our HTS network and continue to introduce new and improved products in order to maintain and improve our competitive position and generate revenue. Our inability to accomplish any of these goals could have a material adverse effect on our revenues, profitability and cash flow, and we cannot assure you when, or whether, we will regain profitability.

We expect that our AgilePlans pricing model for our mini-VSAT broadband business will continue to adversely affect our revenues at least in the short term.

In April 2017, we launched AgilePlans, our all-inclusive connectivity-as-a-service, or CaaS, usage-based pricing model for our mini-VSAT broadband service. Under this CaaS model, we charge subscribers a monthly fee for satellite communication hardware, shipping and installation, maintenance and support, airtime and voice services, a service management portal and certain basic content services. AgilePlans customers do not make long-term commitments and can cancel their AgilePlans subscription service at any time. In 2019 and the six months ended June 30, 2020, AgilePlans revenue comprised 10% and 16% of our total revenue, respectively. Under this model, we retain ownership of our satellite equipment and do not sell it to subscribers; accordingly, to the extent that customers continue to adopt this subscription model, our revenues from product sales will continue to decline, and our provision of this equipment to subscribers will continue to increase our capital expenditures, which over time will increase our operating expenses as we depreciate these assets. Similarly, revenues from other services included in the plans, which have previously been sold separately, will also decline. In May 2019, we sold our Videotel business and the services offered by the Videotel business have historically been included in our AgilePlans programs. Although we retained the right to continue to offer Videotel services as a part of our AgilePlans programs for a period of time, any discontinuation of the Videotel services may reduce the attractiveness of our AgilePlans programs. Although our goal with the AgilePlans pricing model is to increase the number of subscribers and thereby increase our overall mobile connectivity revenues, the pricing model is still relatively untested and may have unanticipated consequences for our business if adopted on a large scale. There can be no assurance that customers will continue to adopt the AgilePlans pricing model or that revenues from our AgilePlans will offset the loss of other revenue and increase our overall mobile connectivity revenues. Accordingly, an expansion of the AgilePlans pricing model may continue to lead to lower overall revenues in our mobile connectivity segment on either a short-term or long-term basis. Further, because we retain ownership of the satellite communications equipment provided to subscribers under the AgilePlans, we may incur increased costs, including write-offs seeking to recover equipment from any customers who may default on payment or transition to another service. Adoption of the same or similar pricing models by competitors may lead to significant price competition, which could also adversely affect our revenues.

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

In November 2017, we launched our high-throughput satellite, or HTS, communications service that uses Intelsat’s Global IntelsatOne Flex managed services and SKY-Perfect JSAT capacity. We also operate a global network of leased satellite transponders and terrestrial teleports in cooperation with ViaSat, Inc. We anticipate that the HTS network may eventually significantly reduce costs and enhance the capabilities of the satellite communications services that we offer to our customers. In the near term, however, the launch of the HTS network has resulted and will result in additional operating costs arising from the need to operate both the HTS network and the legacy network. The operation of the HTS network may also present technical challenges arising from Intelsat’s use of the relatively new iDirect Velocity technology for the coding and modulation of satellite signals. Further, the operational requirements associated with the HTS network may continue to require significant attention from our management, marketing, sales, and technical teams, potentially distracting them from other opportunities to further develop our services and increase our customer base. Finally, our current focus on the HTS network creates potential risks with respect to the continued operation of our existing satellite communications network and our contractual arrangement with ViaSat and satellite operators. Our arrangement with ViaSat is currently scheduled to expire in 2021. The arrangement with ViaSat and satellite operators will need to be phased out over a period of several years, but the reliability of the existing satellite network will need to be maintained during the entirety of the wind-down period.

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

Generally accepted accounting principles in the United States, or U.S. GAAP, are subject to modification and interpretation by the Financial Accounting Standards Board, or the FASB, the SEC, and other bodies formed to promulgate and interpret accounting principles. For example, in May 2014, the FASB issued Accounting Standards Codification Update No. 2014-09, *Revenue from Contracts with Customers* (Topic 606), which substantially revised revenue recognition guidance under U.S. GAAP. We implemented this new revenue standard in the first quarter of 2018. The adoption of this new standard is having a material impact on our consolidated interim financial statements, including delays in recognition of revenue for certain mini-VSAT Broadband services and hardware contracts and balance sheet impacts relating to accounts receivable, contract assets and contract liabilities. These or other changes in accounting principles are adversely affecting our reported financial results, including a meaningful increase to our accumulated deficit upon adoption. Moreover, our system of internal controls was originally designed to address previous standards for revenue recognition (Topic 605), and the relatively minor modifications we have made to our internal controls to address the new standard may be insufficient to implement the new standard accurately or in full. In the third quarter of 2019, we identified an error relating to our treatment of sales-type leases of our marine mobile communications products, under which we had generally deferred recognition of product revenue and associated product costs rather than recognizing those items upon shipment. Although we determined that this error was immaterial to our interim financial statements, it is possible that our interim financial statements contain other errors that, if identified, would be material. Any insufficiencies or errors in implementation could lead to mistakes in, or delays in filing, our consolidated interim financial statements as well as deficiencies or weaknesses in our internal control over financial reporting and our disclosure controls and procedures, any of which could lead to additional accounting, legal and other expenses, potential restatements, loss of investor confidence, enforcement actions by governmental authorities, securities class actions and other adverse consequences.

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

Economic conditions in the various geographic markets we serve have experienced significant turmoil over the last several years, including downturns related to the COVID-19 pandemic, slow economic activity, tight credit markets, inflation and deflation concerns, low consumer confidence, limited capital spending, adverse business conditions, war and refugee crises in the Middle East and Europe, terrorist attacks, the anticipated departure of the United Kingdom from the European Union, leadership transitions in the United Kingdom, the changes in government priorities, trade wars, a government shutdown, gridlock from a divided Congress, and liquidity concerns. These factors vary in intensity by region. These conditions can make it difficult for businesses, governments and consumers to accurately forecast and plan future activities. Many governments, including the US government, are experiencing significant deficits that have caused and may continue to cause them to curtail spending significantly and/or reallocate funds away from defense programs. There can be no assurances that government programs to improve economic conditions will be effective. As a result of these and other factors, customers and government entities could continue to slow or suspend spending on our products and services. We may also incur increased credit losses and need to further increase our allowance for doubtful accounts, which would have a negative impact on our earnings and financial condition.

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

The recent COVID-19 pandemic may have a material adverse effect on our revenues, results of operations and financial condition.

The COVID-19 pandemic has spread to the United States and other countries in which we, our customers and our suppliers do business. Governments in affected regions have implemented and are continuing to implement extensive safety precautions, including quarantines, travel restrictions, business closures, cancellations of public gatherings and other measures. Other organizations and individuals are taking additional steps to avoid or reduce infection, including limiting travel and implementing work-at-home policies. These measures have significantly disrupted normal business operations both in and outside of affected areas and complying with them has increased certain of our costs. Travel restrictions and safety precautions have also limited our field service engineers from servicing and installing our equipment. Although we are unable to predict the precise impact of the pandemic on our business, our mobile communications business in particular depends to a large extent on travel. The operations of our KVH Media Group have been particularly impacted due in part to the global reduction in travel resulting from the pandemic. We anticipate that, until the pandemic is contained, governmental, individual, business and other organizational measures to limit the spread of the virus will adversely affect our revenues, results of operations and financial condition, perhaps materially. An outbreak of infection in any of our facilities could severely disrupt our operations. We continue to monitor our operations and government recommendations and have made modifications to our operations because of the pandemic. For example, we have generally asked our employees to alter or cancel travel plans involving affected areas. Major industry events have been cancelled, which has adversely affected our ability to meet with existing and potential new customers. This or any other outbreak and any additional preventative or protective actions that may be taken in response to this or any other global health threat or pandemic may result in additional business and/or operational disruption. Our customers’ businesses could be further disrupted, and our revenues could continue to be adversely affected. Additionally, global economic disruptions like the COVID-19 pandemic could negatively impact our supply chain and cause delays in the delivery of raw materials, components and other supplies that we need to conduct our operations. We may be unable to locate replacement materials, components or other supplies, and ongoing delays could reduce sales and adversely affect our revenues and results of operations. The extent to which the pandemic will impact our business will depend on many factors beyond our control, including the speed of contagion, the development and implementation of effective preventative measures and possible treatments, the scope of governmental and other restrictions on travel and other activity, and public reactions to these factors.

Turmoil in U.S. trade policy, including changes to existing trade agreements and any resulting changes in international trade relations, may have a material adverse effect on us.

The U.S. administration is continuing to alter the U.S.’s approach to international trade, often in unpredictable ways, and is renegotiating, and may terminate, certain existing bilateral or multi-lateral trade agreements and treaties with foreign countries. In addition, the U.S. administration has imposed tariffs on certain foreign goods and may increase tariffs or impose new ones, and certain foreign governments have imposed retaliatory tariffs on certain U.S. goods and may increase tariffs or impose new ones. We derive a majority of our revenues from international sales, which makes us especially vulnerable to increased tariffs. The changes have created ongoing turmoil in international trade relations and it is unclear what future actions the U.S. government or foreign governments will or will not take with respect to tariffs or other international trade agreements and policies. Current trade negotiations may fail, which may exacerbate these risks. Ongoing or new trade wars or other governmental action related to tariffs or international trade agreements or policies could reduce demand for our products and services, increase our costs, reduce our profitability, adversely impact our supply chain or otherwise have a material adverse effect on our business and results of operations.

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

Oil prices have declined significantly since the peak in 2014. West Texas Intermediate oil prices dropped from a high of more than $107.00 per barrel in June 2014 to a low of less than $17.00 per barrel in April 2020. Customers of our mobile satellite business include offshore support vessel companies that participate in or depend on the offshore oil industry. The cycle of fluctuations in worldwide oil prices has had a significant impact on the financial performance of companies in this sector of the economy, and as a result demand for new products and services has declined severely since 2015 as they have sought to reduce expenditures. The COVID-19 pandemic has significantly reduced travel, which in turn has significantly reduced demand for gasoline and other oil products. In addition, we have experienced a higher customer churn rate primarily attributed to customers that operate in this sector, where the sale, decommissioning, or laying up of vessels has led to a higher rate of airtime plan terminations and suspensions. These trends could continue to limit or reduce demand for our mobile connectivity products and services from companies in this sector, which could continue to adversely affect our revenues and profitability.

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

We have historically sold a substantial portion of our TACNAV and FOG products and services to the U.S. government and its contractors. We are unable to predict the impact on our business of Congressional gridlock, tax reform and government policies, including new expenditures to address the COVID-19 pandemic, which have increased already significant budget deficits and may lead to an overall reduction in federal spending on programs important to our business. A reduction in sales to the U.S. government or its contractors, whether due to lack of funding, for convenience or otherwise, or the occurrence of delays, could negatively impact our results of operations and financial condition.

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

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

As a result of our mini-VSAT Broadband network infrastructure, our cost of service sales includes certain fixed costs that do not generally vary in proportion with the volume of service sales, and we have almost no ability to reduce these fixed costs in the short term. These fixed costs have increased significantly each year as we have further expanded our network to accommodate additional subscriber demand and/or coverage areas, and we expect that this trend will continue throughout 2020 and beyond, particularly as we expand our HTS network. If sales of our TracPhone V-HTS series products and the mini-VSAT Broadband service, including through our AgilePlans subscription model, do not generate the level of revenue that we expect or if those revenues decline, our service gross margins may continue to decline. As our market share has increased, we have also experienced a general increase in customer termination and suspension rates, compounded by accelerated declines in sales for vessels servicing the oil supply market with some bulk carriers, and lower unit sales of our mobile connectivity hardware, both in the United States and Europe. The failure to improve our mini-VSAT Broadband service gross margins and unit or subscriber sales would have a material adverse effect on our overall profitability.

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

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

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

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

In the marine market for high-speed voice, fax, data, and Internet services, we compete primarily with Inmarsat, Marlink, Speedcast, Network Innovations, and Global Eagle Entertainment. We also face competition from providers of low-speed data services, which include Inmarsat, Globalstar LP, and Iridium Satellite LLC.

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

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

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

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

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

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

Our TracPhone V-HTS and V-IP systems offer customers a range of benefits due to their integrated design, hardware costs that are lower than existing maritime Ku-band VSAT systems, and broadband technology. We currently compete against companies that offer established maritime Ku-band VSAT service using, in some cases, antennas 1-meter in diameter or larger. While we are unaware of any company offering a 37-cm VSAT solution comparable to our TracPhone V3-HTS, we are encountering regional competition from companies offering 60-cm VSAT systems and services, which are comparable in size to our TracPhone V7-HTS. Likewise, our TracPhone V11-HTS, at 1.1-meters in diameter, is approximately 85% smaller and lighter than competing C-band maritime VSAT systems, which use antennas in excess of 2.4-meters in diameter to provide similar global services. We are unaware of any competitor currently offering a similar size solution for global C-band coverage, but any introduction of such a product could adversely impact our success. In addition, other companies could replicate some of the distinguishing features of our TracPhone V-HTS series products, which could potentially reduce the appeal of our solution, increase price competition, and adversely affect sales. We compete against Inmarsat's Fleet Xpress service, a global Ka-band mobile VSAT service that Inmarsat claims is faster and has a lower price per megabit than existing Ku-band services. This service may continue to adversely impact sales of our mini-VSAT Broadband service and related equipment. Our arrangement to use the IntelsatOne Flex service for our HTS network is not exclusive, and competitors’ use of this service could also adversely impact sales. Moreover, consumers may choose other services such as FleetBroadband or Iridium OpenPort for their service coverage at potentially lower hardware costs despite higher service costs and slower data rates.

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

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

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

Research and development in our industry is inherently complex and uncertain, and our current and anticipated research and development projects may not achieve the results we seek. For example, we are currently investing in the development of a new, low-cost FOG for the autonomous vehicle market that will satisfy rigorous performance expectations but that can be manufactured at a significantly lower cost than our current FOGs. We plan to invest significantly to substantially accelerate this development program. The autonomous vehicle market is extremely competitive and evolving rapidly, factors that may afford us only a brief window to develop and introduce a competitively priced product before customers make design choices that could limit our opportunities or exclude us from the market altogether. We are also seeking to develop enhancements to our current generation of TACNAV products. As with all development projects, we may encounter unforeseen technical challenges, delays, cost overruns, licensing requirements or other problems that prevent us from achieving our goals, as a result of which we could lose significant market opportunities. Our research and development expenses increased 7% from 2018 to 2019, and increased 6% from the six months ended June 30, 2019 to the six months ended June 30, 2020. The capital resources that we can devote to our research and development efforts may be insufficient to achieve our goals. Our efforts may not result in any viable products or may result in products whose performance, features, price or availability may not be attractive to customers or which we cannot manufacture and sell profitably. As a result, our efforts may not result in products that generate meaningful revenues or earnings in the near term, or at all. We may expend a significant amount of resources in unsuccessful research and development efforts, and any failure to achieve our research and development goals may harm our reputation with customers or otherwise adversely affect our business, financial condition and results of operations.

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

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

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

These factors periodically cause substantial fluctuations in sales of our TACNAV and FOG products and services from period to period. For example, TACNAV product sales increased $1.2 million, or 128%, from the six months ended June 30, 2019 to the six months ended June 30, 2020. Similarly, sales of our FOG products increased $0.1 million, or 1%, from the six months ended June 30, 2019 to the six months ended June 30, 2020. In October 2014, we received a $19.0 million TACNAV product and services contract with an international military customer which included program management and engineering services delivered through 2017 and hardware shipments that were completed in the third quarter of 2016. These types of large orders contribute to the unpredictability of our revenues from period to period. Government customers may change defense spending priorities at any time.

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

KVH products sold to customers in the defense industry are purchased through orders that can generally range in size from several hundred thousand dollars to several million dollars. For example, we received an order for FOG products of $4.0 million in October 2019 and orders for TACNAV products and services of $10.0 million, $6.7 million and $3.5 million in July 2020, September 2019 and April 2017, respectively. Orders of this size are often unpredictable and difficult to replicate. As a result, the delay or cancellation of a single order could materially reduce our net sales and results of operations. We routinely experience repeated and unanticipated delays in defense orders, which make our revenues and operating results less predictable. Because our inertial navigation products typically have relatively higher product gross margins than our mobile connectivity products, the loss of an order for inertial navigation products could have a disproportionately adverse effect on our results of operations.

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

We derive a significant portion of our inertial navigation revenues from a small number of customers, many of whom are contractors for the U.S. government. The loss of business from any of these customers or delays in orders could substantially reduce our net sales and results of operations and could seriously harm our business. Since we are often awarded a contract as a subcontractor to a major defense supplier that is engaged in a competitive bidding process as prime contractor for a major weapons procurement program, our revenues depend significantly on the success of the prime contractors with which we align ourselves.

Commercial sales of our inertial navigation products are unpredictable.

Fluctuating commercial sales of our inertial navigation products are making it more difficult to predict our future revenues. We have been marketing our inertial navigation products, particularly our FOG products and systems, to original equipment manufacturers for incorporation into commercial products, such as navigation and positioning systems for various applications, including precision mapping, dynamic surveying, self-driving and other autonomous vehicles, train location control and track geometry measurement systems, industrial robotics, and optical stabilization. Because we sell these products to original equipment manufacturers rather than end-users, we have less information about market trends and other developments affecting the buying patterns of end-users and, as a result, may be unable to forecast demand for these products accurately. Sales of FOGs for commercial applications decreased from 2018 to 2019; however, sales can significantly increase or decrease quarter-to-quarter due to our customer mix. Moreover, sales of these products for commercial applications depend on the success of our customers' products, and any decline in sales of our customers' products would reduce demand for our products

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

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

An increasing portion of our revenues derives from commercial leases of mobile connectivity equipment, rather than sales, which increases our credit and collection risk.

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

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

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

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

Because of the scope of our foreign sales and foreign operations, we face significant exposure to movements in exchange rates for foreign currencies, particularly the pound sterling and the euro. During 2018 and 2019, the U.S. dollar strengthened slightly against certain foreign currencies, which adversely affected our revenues reported in U.S. dollars and decreased the reported value of our assets in foreign countries. If the U.S. dollar continues to strengthen (as has recently occurred relative to the pound sterling), our revenues denominated in foreign currencies but reported in U.S. dollars, as well as the reported value of our assets in foreign countries, would be commensurately lower.

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

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

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

We have significant operations in the United Kingdom, including the major portion of our KVH Media Group operations. The United Kingdom's departure from the European Union, or Brexit, and the recent change in governmental leadership in the United Kingdom have caused significant political uncertainty in both the United Kingdom and the European Union. The impact of Brexit and the resulting turmoil on the political and economic future of the United Kingdom and the European Union is uncertain, and we may be adversely affected in ways we do not currently anticipate. Brexit may result in a significant change in the British regulatory environment, which would likely increase our compliance costs. Customers and other businesses may curtail expenditures, including for purchases of our products and services. We may find it more difficult to conduct business in the United Kingdom and the European Union, as Brexit may result in increased restrictions on the movement of capital, goods and personnel. Depending on the outcome of negotiations between the United Kingdom and the European Union regarding the terms of Brexit, we may decide to relocate or otherwise alter our European operations to respond to the new business, legal, regulatory, tax and trade environments that may result. Brexit may materially and adversely affect our relationships with customers, suppliers and employees and could result in decreased revenue, increased expenses, higher tariffs and taxes, and lower earnings and cash flow.

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

Factors such as tight credit, environmental protection laws and ongoing low levels of consumer confidence can materially and adversely affect sales of larger vehicles and vessels for which our mobile satellite TV products are designed, such as yachts and recreational vehicles. Many customers finance their purchases of these vehicles and vessels, and tight credit availability can reduce demand for both these vehicles and vessels and our mobile satellite TV products. Moreover, financing for these purchases has sometimes been unavailable or more difficult to obtain. The increased cost of operating these vehicles and vessels can adversely affect demand for our mobile satellite TV products.

The agreements governing the indebtedness under our secured credit facility subject us to various restrictions that may limit our ability to pursue business opportunities.

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

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

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

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

Although no amount were outstanding under the agreements governing our secured credit facility as of June 30, 2020, the agreements subject us to various financial and other affirmative and negative covenants with which we must comply on an ongoing or periodic basis. These include covenants pertaining to a maximum consolidated leverage ratio and a minimum consolidated fixed charge coverage ratio and covenants requiring the mandatory prepayment of amounts outstanding under the revolver under specified circumstances, including (i) 100% of the net cash proceeds from certain dispositions to the extent not reinvested in our business within a stated period, (ii) 50% of the net cash proceeds from stated equity issuances, and (iii) 100% of the net cash proceeds from certain receipts above certain threshold amounts outside the ordinary course of business. The consolidated leverage ratio may not be greater than 2.50:1.00 and declines to 2.00:1.00 on December 31, 2020. The consolidated fixed charge coverage ratio may not be less than 1.25:1.00. If we violate any of these covenants, any outstanding debt under our secured credit facility could become immediately due and payable, our lenders could proceed against any collateral securing such indebtedness, and our ability to borrow additional funds in the future could be limited or terminated. Alternatively, we could be forced to refinance or renegotiate the terms and conditions of our secured credit facility, including the interest rates, financial and restrictive covenants and security requirements of the secured credit facility, on terms that may be significantly less favorable to us.

An anticipated audit of our Paycheck Protection Program loan may result in, among other things, a determination that we are not entitled to forgiveness of the loan or that we were not entitled to receive the loan, in which case we would have to repay the loan, with interest, and may face penalties and harm to our reputation.

In early May 2020, we received a $6.9 million loan from Bank of America, N.A. under the Paycheck Protection Program of the Coronavirus Aid, Relief, and Economic Security Act, or the CARES Act. The loan is described in more detail in Note 10 to the accompanying consolidated interim financial statements. The loan has a term of two years, and upon application to the Small Business Administration, or SBA, all or a portion of the loan may be forgiven, depending on our use of proceeds and other factors. Under the CARES Act, loan forgiveness is available for certain payroll costs, rent payments, mortgage interest and utilities, if stated conditions are met. While we believe we have used the proceeds of the loan for purposes eligible for forgiveness, we cannot provide any assurance that we will be eligible for any loan forgiveness, that we will apply for forgiveness, or that any amount of the loan will be forgiven, in which case we must repay the loan with interest.

The Secretary of the U.S. Department of the Treasury has stated that all Paycheck Protection Program loans over $2.0 million will be audited; accordingly, we expect that our loan and any application we file for forgiveness will be reviewed carefully. In order to apply for the loan, we were required to certify, among other things, that the current economic uncertainty made the loan request necessary to support our ongoing operations. We made this certification in good faith after our management and our Board of Directors reviewed our history of losses, our financial situation, our expectations regarding the impact of the pandemic on our business, and our access to alternative forms of capital, and we believe that we satisfied all eligibility criteria for the loan. The certification we were required to provide did not contain any objective criteria and is subject to interpretation. However, the SBA issued guidance stating that it is unlikely that a public company with substantial market value and access to capital markets would be able to make the required certification in good faith. If, despite our good-faith belief that we satisfied all eligibility requirements for the loan, we are later determined to have been ineligible to receive the loan or to have violated any laws or regulations in connection with the loan, such as the False Claims Act, we may be required to repay the loan in full and may be subject to civil, criminal and administrative penalties. Our receipt of the loan may result in adverse publicity and damage to our reputation, and any review or audit of the loan or any legal claims could consume significant financial and management resources.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

A deterioration in the current state of worldwide economic conditions and tight credit could present challenges to our suppliers, which could result in disruptions to our business, increase our costs, delay shipment of our products or delivery of services, and impair our ability to generate and recognize revenue. To address their own business challenges, our suppliers may increase prices, reduce the availability of credit, require deposits or advance payments or take other actions that may impose a burden on us. They may also reduce production capacity, slow or delay delivery of products, face challenges meeting our specifications or otherwise fail to meet our requirements. In some cases, our suppliers may face bankruptcy. We may be required to identify, qualify, and engage new suppliers, which would require time and the attention of management. Any of these events could impair our ability to deliver our products and services to customers in a timely and cost-effective manner, cause us to breach our contractual commitments or result in the loss of customers.

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

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

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

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

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

Historically, sales to customers outside the United States have accounted for a significant portion of our net sales. We derived 58%, 54% and 57% of our revenues in the six months ended June 30, 2020 and the years ended December 31, 2019 and 2018, respectively, from sales to customers outside the United States. We have foreign sales offices in Denmark, the United Kingdom, Singapore, Hong Kong, Japan, Norway, Cyprus and the Philippines, as well as a subsidiary in Brazil that manages local sales. However, aside from these international sales offices, substantially all of our personnel and operations, particularly for our mobile connectivity equipment business and our inertial navigation business, are located in the United States. Our limited operations in foreign countries may impair our ability to compete successfully in international markets and to meet the service and support needs of our customers in countries where we have little to no infrastructure. We are subject to a number of risks associated with our international business activities, which may increase our costs and require significant management attention. These risks include:

- restrictions on international travel, which may restrict our ability to grow and service our business;
- retaliatory and other tariffs;
- sanctions or other trade restrictions that preclude or restrict doing business with particular foreign governments, companies or individuals;
- technical challenges we may face in adapting our mobile connectivity products to function with different satellite services and technology in use in various regions around the world;
- satisfaction of international regulatory requirements and delays and costs associated with procurement of any necessary licenses or permits;
- the potential unavailability of content licenses covering international waters and foreign locations;
- restrictions on the sale of certain inertial navigation products to foreign military and government customers;
- increased costs of providing customer support in multiple languages;
- increased costs of managing operations that are international in scope;
- potentially adverse tax consequences, including restrictions on the repatriation of earnings;
- protectionist laws and business practices that favor local competitors, which could slow our growth in international markets;
- potentially longer sales cycles, which could slow our revenue growth from international sales;
- potentially longer accounts receivable payment cycles and difficulties in collecting accounts receivable; and
- economic and political instability in some international markets.

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

As a result of our international operations, we are subject to a number of legal requirements, including the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act and the customs, export, trade sanctions and anti-boycott laws of the United States, including those administered by the U.S. Customs and Border Protection, the Bureau of Industry and Security, the Department of Commerce, the Department of State, and the Office of Foreign Assets Control of the Treasury Department, as well as those of other nations in which we do business. In addition, the governments of many of the countries where our customers use our products and services maintain licensing and regulatory requirements for the importation and use of satellite communications and reception equipment, including the use of such equipment in the country’s territorial waters, the transmission of satellite signals on certain radio frequencies, the transmission of voice over Internet services using such equipment, and, in some cases, the reception of certain video programming services. These laws and regulations are changing continuously, and compliance with these laws and regulations is complex. We incur significant costs identifying and maintaining compliance with applicable licensing and regulatory requirements. In addition, our training and compliance programs and our other internal control policies may be insufficient to protect us from acts committed by our employees, agents or third-party contractors. Any violation of these requirements by us or our employees, agents or third-party contractors may subject us to significant criminal and civil liability.

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

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

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

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

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

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

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

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

Our company and our customers can use our services to collect, use and store information, including personal information or other information treated as confidential, regarding the content and manner of usage of our services by them, their employees and maritime crews. Federal, state and foreign governments and agencies have adopted or are proposing new and more stringent laws and regulations regarding the collection, use, storage and transfer of such personal information obtained from consumers and individuals, such as the European Union's General Data Protection Regulation ("GDPR"), which took effect in May 2018. The costs of compliance with, and other burdens imposed by, such laws and regulations that are applicable to us and the operations of our customers may limit the use and adoption of our services and reduce overall demand. Non-compliance with these laws and regulations could lead to significant remediation expenses, fines, penalties or other regulatory liabilities such as orders or consent decrees that require modifications to our our privacy practices, as well as reputational damage or third-party lawsuits seeking damages or other relief. For example, the GDPR imposes a strict data protection compliance regime with penalties of up to the greater of 2%-4% of worldwide revenue or €10-20 million.

Domestic and international legislative and regulatory initiatives may harm our ability, and the ability of our customers, to process, handle, store, use and transmit information, including personal information or other information treated as confidential, which could reduce demand for some of our services, increase our costs and force us to change our business practices. For example, the recent invalidation of the Privacy Shield may affect our ability to collect, use and transfer personal information of EU individuals outside of the EU. These laws and regulations are still evolving, are likely to be in flux and may be subject to uncertain interpretation for the foreseeable future. Our business also could be harmed if legislation or regulations are adopted, interpreted or implemented in a manner that is inconsistent from country to country or inconsistent with our current policies and practices or those of our customers. In addition, although foreign data protection, privacy, and consumer protection laws and regulations, such as the GDPR, are often more stringent than those currently in effect in the United States, privacy restrictions in the United States could equal or exceed those under the GDPR in the future.

Acquisitions may disrupt our operations or adversely affect our results.

We evaluate strategic acquisition opportunities to acquire other businesses as they arise. The expenses we incur evaluating and pursuing these and other such acquisitions could have a material adverse effect on our results of operations. If we acquire a business, we may be unable to manage it profitably or successfully integrate its operations with our own. Moreover, we may be unable to realize the strategic, financial, operational and other benefits we anticipate from any acquisition, and any acquisition may increase our overall operating expenses, including expenses we may incur to complete acquired research and development programs. Competition for acquisition opportunities could increase the price we pay for businesses we acquire and could reduce the number of potential acquisition targets. Further, our approach to acquisitions may involve a number of special financial and business risks, such as:

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

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

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

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

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

If we are unable to hire and retain the skilled personnel we need to expand our operations, our business will suffer.

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

Our success depends on the services of our executive officers.

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

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

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

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

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

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

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

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

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

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

We are highly dependent on information technology networks and systems, including the Internet, and third-party systems, to securely process, transmit and store electronic information, including personal information of our customers. We also retain sensitive data, including intellectual property, proprietary business information, personally identifiable information, credit card information, and usage data of our employees and customers on our computer networks. and those of third parties. Although we take certain protective measures and endeavor to modify them as we believe circumstances warrant, invasive technologies and techniques continue to evolve rapidly, and increasingly sophisticated hacking organizations are targeting business systems. As a result, the computer systems, software and networks that we use are vulnerable to disruption, shutdown, unauthorized access, misuse, erasure, alteration, employee error, phishing, computer viruses, ransomware or other malicious code, and other events that could have a security impact. The protective measures on which we rely may be inadequate to detect future cybersecurity breaches or determine the extent of any breach, and there can be no assurance that undetected breaches have not already occurred. Any security breach may compromise information stored on networks we use and may result in significant data losses or theft of our, our customers', our business partners' or our employees' sensitive information. Public reports suggest that cybersecurity incidents are happening more often and with increasingly severe consequences. We may be required to expend substantial additional resources to augment our efforts to address potential cybersecurity risks, which could adversely affect our results of operations and which may not be successful.

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

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

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

- the impact of the COVID-19 pandemic on our business and the businesses of our customers, vendors and suppliers;
- changes in demand for our mobile connectivity and inertial navigation products and services, including as a result of our AgilePlans;
- the timing and size of individual orders from military customers, which may be delayed or canceled for various reasons;
- the mix of products and services we sell, including the mix of fixed rate and metered contracts for airtime services;
- our ability to manufacture, test and deliver products in a timely and cost-effective manner, including the availability and timely delivery of components and subassemblies from our suppliers;
- our success in winning competitions for orders;
- the timing of new product introductions by us or our competitors;
- the scope and success of our investments in research and development;
- expenses incurred in pursuing acquisitions and investments;
- expenses incurred in expanding, maintaining, or improving our mini-VSAT Broadband network;
- market and competitive pricing pressures;
- unanticipated charges or expenses, such as increases in warranty claims;
- general economic climate; and
- seasonality of pleasure boat and recreational vehicle usage.

In light of our current and anticipated investments in research and development and the expansion of our new HTS network, we expect that our operating expenses in upcoming quarters will increase significantly over the amounts we incurred in prior comparable quarters.

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

The market price of our common stock may be volatile.

Our stock price has historically been volatile. During the period from January 1, 2017 to June 30, 2020, the trading price of our common stock ranged from $6.36 to $14.15. Many factors may cause the market price of our common stock to fluctuate, including:

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

In addition, the stock market can experience extreme price and volume fluctuations. Major stock market indices experienced dramatic declines in 2008, the first quarter of 2009, January 2016, the fourth quarter of 2018 and the first quarter of 2020. The most recent decline, in March 2020, appears to have been a response to the impact of the COVID-19 pandemic on the global economy. These fluctuations are often unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the market price of our common stock. When the market price of a company's stock drops significantly, stockholders often institute securities litigation against that company. Any such litigation could cause us to incur significant expenses defending against the claim, divert the time and attention of our management and result in significant damages.

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

We are subject to income and other taxes in both the U.S. and the foreign jurisdictions in which we currently operate. The determination of our worldwide provision for income taxes and current and deferred tax assets and liabilities requires significant judgment and estimation. In the ordinary course of our business, there are many transactions and calculations where the ultimate tax determination is uncertain. We are subject to regular review and audit by both domestic and foreign tax authorities and to the prospective and retrospective effects of changing tax regulations and legislation. Although we believe our tax estimates are reasonable, the ultimate tax outcome may materially differ from the tax amounts recorded in our consolidated interim financial statements and may materially affect our income tax benefit or expense, net loss or income, and cash flows in the period in which such determination is made. As of June 30, 2020, we had liabilities for uncertain tax positions of $0.6 million.

Deferred tax assets are recognized for the expected future tax consequences of temporary differences between the carrying amount for financial reporting purposes and the tax bases of assets and liabilities, and for net operating losses and tax credit carry forwards. In some cases, we may record a valuation allowance to reduce our deferred tax assets to estimated realizable value. We review our deferred tax assets and valuation allowance requirements quarterly. If we are unable to demonstrate that it is more likely than not that we will not be able to generate sufficient future taxable income to realize the net carrying value of deferred tax assets, we will record a valuation allowance to reduce the deferred tax assets to estimated realizable value, which could result in a material income tax charge. As part of our review, we consider positive and negative evidence, including cumulative results of recent years.

Our effective tax rate fluctuates, and we may incur obligations in tax jurisdictions in excess of accrued amounts.

As a global company, we are subject to taxation in numerous countries, states and other jurisdictions. As a result, our effective tax rate is based on the tax rates in effect where we operate. In preparing our interim financial statements, we estimate the amount of tax that will become payable in each jurisdiction. Our effective tax rate may vary as a result of numerous factors, including changes in the mix of our profitability from jurisdiction to jurisdiction, the results of examinations and audits of our tax filings, whether we secure or sustain acceptable arrangements with tax authorities, adjustments to the value of our uncertain tax positions, changes in accounting for income taxes and changes in tax laws, including the 2017 Tax Cuts and Jobs Act, or the 2017 Tax Act. Any of these factors could cause us to experience an effective tax rate significantly different from previous periods or our current expectations.

The 2017 Tax Act made significant changes to the U.S. corporate income tax system. These changes include a federal statutory corporate income tax rate reduction from 35% to 21%, the elimination or reduction of certain domestic deductions and credits, and limitations on the deductibility of interest expense and executive compensation. The 2017 Tax Act also transitions taxation of earnings from a worldwide system to a modified territorial system and includes base erosion prevention measures on non-U.S. earnings, which subjects certain earnings of our foreign subsidiaries to U.S. taxation as global intangible low-taxed income, or GILTI. Both recently issued and future U.S. Treasury regulations, administrative interpretations or court decisions interpreting the 2017 Tax Act may require further adjustments and changes in our estimates, which could have a material adverse effect on our business, results of operations or financial conditions. In addition, there is substantial uncertainty regarding the application of many of the provisions of the 2017 Tax Act and related U.S. Treasury regulations, and the positions we take may later be challenged by tax authorities, which could lead to additional taxes, penalties and interest and, if material, might require us to revise or restate our consolidated interim financial statements. Moreover, the 2017 Tax Act and related regulations and interpretations require us to perform new, complex computations, make significant judgments and estimates, and prepare and analyze information not previously relevant or regularly produced. Our information management systems and related processes may require modifications in order to collect and process necessary information. We may be unable to make necessary modifications in a timely or effective manner, which could result in the miscalculation of our tax obligations.

In June 2019, the U.S. Court of Appeals for the Ninth Circuit overturned the 2015 U.S. tax court decision in Altera Corp. v. Commissioner. The court’s opinion upheld U.S. Treasury regulations requiring the inclusion of stock-based compensation costs under cost-sharing agreements. Based on our preliminary analysis, we believe the impact of the court’s decision would not have a material impact on our consolidated interim financial statements. However, additional changes to precedent or applicable law on this point could impact our interim financial statements or operations.

Further changes in the tax laws of foreign jurisdictions could arise as a result of the base erosion and profit shifting (BEPS) project undertaken by the Organisation for Economic Co-operation and Development (OECD), which represents a coalition of member countries. On October 5, 2015, the OECD issued a series of reports recommending changes to numerous long-standing tax principles. Many of these recommendations or similar concepts are being adopted by various countries in which we do business and may increase our taxes in these countries. Changes to these and other areas in relation to international tax reform, including future actions taken by foreign governments in response to the 2017 Tax Act, could increase uncertainty and may adversely affect our tax rate and cash flow in future years.

Changes in the competitive environment, supply chain issues and the transition to our HTS network may require inventory write-downs.

From time to time, we have recorded significant inventory charges and/or inventory write-offs as a result of substantial declines in customer demand. For example, in 2019, we recorded a $2.3 million inventory reserve relating to our TracPhone V-IP products as we decided to no longer promote sales of these products but instead to focus our efforts on migrating customers to our HTS network and products. Market or competitive changes could lead to future charges for excess or obsolete inventory, especially if we are unable to appropriately adjust the supply of material from our vendors.

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

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

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

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

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

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

On October 4, 2019, our Board of Directors authorized a share repurchase program pursuant to which we may purchase up to one million shares of our common stock. We did not repurchase any shares of our common stock under the repurchase program during the three months ended June 30, 2020. As of June 30, 2020, 849,728 shares of our common stock remain available for repurchase under the program. The repurchase program is expected to be funded by 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 a duration of one year. Under our 2018 Credit Agreement, we may not repurchase more than $5.0 million shares before October 31, 2021 without appropriate consent. There were no other repurchase programs outstanding during the three months ended June 30, 2020, and no repurchase programs expired that period.

During the three months ended June 30, 2020, no vested restricted 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.
3.1	Amended and Restated Certificate of Incorporation, as amended		10-Q	August 6, 2010	3.1
3.2	Amended and Restated Bylaws		10-Q	November 1, 2017	3.2
4.1	Specimen certificate for the common stock		10-K	March 2, 2018	4.1
10.1	Cooperation Agreement, dated as of April 8, 2020, by and among KVH Industries, Inc., Vintage Capital Management, LLC, and Kahn Capital Management, LLC		8-K	April 9, 2020	10.1
10.2	Promissory Note dated as of May 1, 2020 and executed on May 3, 2020 by KVH Industries, Inc., in favor of Bank of America, N.A.		8-K	May 6, 2020	10.1
10.3	First Amendment to Amended and Restated Credit Agreement as of July 30, 2020 by and among KVH Industries, Inc., Bank of America, N.A., and The Washington Trust Company	X			
31.1	Rule 13a-14(a)/15d-14(a) certification of principal executive officer	X			
31.2	Rule 13a-14(a)/15d-14(a) certification of principal financial officer	X			
32.1	Section 1350 certification of principal executive officer and principal financial officer	X			
101	The following financial information from KVH Industries, Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2020, formatted in Inline 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) Income (unaudited), (iv) the Consolidated Statement of Stockholders' Equity (unaudited), (v) the Consolidated Statements of Cash Flows (unaudited), and (vi) the Notes to Consolidated Interim Financial Statements (unaudited).	X			
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)	X			

SIGNATURE

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

Date: July 31, 2020

KVH Industries, Inc.

By: /s/ DONALD W. REILLY

Donald W. Reilly

(Duly Authorized Officer and Chief Financial Officer)

Exhibit 10.3

FIRST AMENDMENT TO AMENDED AND RESTATED CREDIT AGREEMENT

First Amendment to Amended and Restated Credit Agreement (this "First Amendment" as hereinafter further defined) is dated as of July 30, 2020, by and among:

KVH INDUSTRIES, INC., a Delaware corporation ("Borrower");

BANK OF AMERICA, N.A., as administrative agent for the Lenders (in such capacity, together with its successors and assigns, "Administrative Agent"); and

The lenders party to the Credit Agreement (individually each, a "Lender" and collectively, the "Lenders").

BACKGROUND:

WHEREAS, Borrower and Administrative Agent are parties to a certain Amended and Restated Credit Agreement, dated as of October 30, 2018, (as the same now exists and may hereafter be amended, modified, supplemented, extended, renewed, restated, or replaced from time to time, the "Credit Agreement");

WHEREAS, Section 7.02 of the Credit Agreement prohibits the incurrence of certain Indebtedness by Borrower;

WHEREAS, Borrower has incurred certain PPP Loans (as defined below) under the Paycheck Protection Program (as defined below), and has requested that the Administrative Agent and the Lenders consent to the incurrence of the PPP Loans, amend Section 7.02 to permit such PPP Loans, and to amend certain other provisions the Credit Agreement, in each case as hereinafter provided; and

WHEREAS, the Administrative Agent and the Lenders are willing to so consent and to so amend the Credit Agreement, in each case subject to the terms and conditions set forth herein.

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Administrative Agent, the Lenders, and the Borrower hereby agree as follows:

1. Definitions.

(a) Capitalized terms used herein but not otherwise defined herein shall have the meanings assigned to such terms in the Credit Agreement.

(b) Section 1.01 of the Credit Agreement is hereby amended by adding the following additional definitions in alphabetical order:

(i) "CARES Act" means the Coronavirus Aid, Relief and Economic Security Act (together with, and as modified by, the Paycheck Protection Program Flexibility Act of 2020).

(ii) "First Amendment" means that certain First Amendment to Amended and Restated Credit Agreement, dated as of July 30, 2020, by and among the Administrative Agent, the

Lenders, and the Borrower.

(iii) "First Amendment Effective Date" means the date as of which the conditions precedent to the effectiveness of the First Amendment have been satisfied in accordance with the terms thereof.

(iv) "Paycheck Protection Program" means the SBA Paycheck Protection Loan Program pursuant to the CARES Act.

(v) "Pledgor" means any person, if any, providing a pledge of collateral with respect to the obligations hereunder.

(vi) "PPP Bank" means Bank of America, N.A., in its capacity as the approved SBA lender to the Borrower under the Paycheck Protection Program.

(vii) "PPP Loans" means one or more SBA loans provided to the Borrower pursuant to the Paycheck Protection Program.

(viii) "SBA" means the agency of the federal government of the United States of America known as the Small Business Administration.

2. Amendments to Credit Agreement. Subject to the satisfaction of the conditions precedent set forth in Section 5 below, the Credit Agreement is hereby amended as follows:

(a) By deleting the definition of "Sanction(s)" where it appears in Section 1.01 of the Loan Agreement.
(b) By deleting Section 5.18 of the Loan Agreement and inserting the following in lieu thereof:

"5.18 Government Sanctions.

(a) The Borrower represents that neither the Borrower, nor any of its subsidiaries, nor, to the knowledge of the Borrower, any owner, trustee, director, officer, employee, agent, affiliate or representative of the Borrower is an individual or entity ("Person") currently the subject of any sanctions administered or enforced by the United States Government, including, without limitation, the U.S. Department of Treasury's Office of Foreign Assets Control, the United Nations Security Council, the European Union, Her Majesty's Treasury, or other relevant sanctions authority (collectively, "Sanctions"), nor is the Borrower located, organized or resident in a country or territory that is the subject of Sanctions.

(b) The Borrower represents and covenants that it will not, directly or indirectly, use the proceeds of the credit provided under this Agreement, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other Person, to fund any activities of or business with any Person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions, or in any other manner that will result in a violation by any Person (including any Person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions."

(c) By inserting the following to appear as new Section 5.27 of the Loan Agreement:

“5.27 No Plan Assets.

The Borrower represents that, as of the date hereof and throughout the term of this Agreement, no Borrower or Guarantor, if any, is (1) an employee benefit plan subject to ERISA, as amended, (2) a plan or account subject to Section 4975 of the Internal Revenue Code of 1986 (the “Code”); (3) an entity deemed to hold “plan assets” of any such plans or accounts for purposes of ERISA or the Code; or (4) a “governmental plan” within the meaning of ERISA.”

(d) By deleting Section 6.16 of the Loan Agreement and inserting the following in lieu thereof:

“6.16 PATRIOT ACT; Beneficial Ownership Regulation.

Promptly following any request therefor, to provide information and documentation reasonably requested by the Administrative Agent for purposes of compliance with applicable “know your customer” and anti-money-laundering rules and regulations, including, without limitation, the PATRIOT Act and the Beneficial Ownership Regulation. For purposes hereof, (a) “Beneficial Ownership Certification” means a certification regarding beneficial ownership required by the Beneficial Ownership Regulation and (b) “Beneficial Ownership Regulation” means 31 C.F.R. § 1010.230.”

(e) By deleting the period “.” at the end of Section 7.02(n), substituting “; and” therefor, and adding the following new Section 7.02(o) immediately thereafter:

“(o) Indebtedness of the Borrower in respect of PPP Loans in favor the Borrower; provided, that:

(a) the Borrower has determined in good faith that it is an “eligible recipient” for a “covered 7(a) loan” under the rules and guidance in effect at the time of the Borrower’s application was submitted pursuant to the Paycheck Protection Program;

(b) the PPP Loans do not exceed the “maximum loan amount” for the Borrower under the Paycheck Protection Program;

(c) the aggregate outstanding principal amount of the PPP Loans shall not exceed $7,000,000;

(d) notwithstanding anything to the contrary set forth in this Agreement or any of the other Loan Documents, all proceeds of PPP Loans shall be used by the Borrower solely for “allowable uses” under the Paycheck Protection Program, and the Borrower shall use commercially reasonable efforts to utilize the proceeds of the PPP Loan, and to otherwise comply with all applicable conditions and requirements under the CARES Act and the Paycheck Protection Program, in a manner that shall maintain eligibility for forgiveness of as much of the principal and interest of the PPP Loans under the CARES Act and the Paycheck Protection Program as is practicable;

(e) the proceeds of the PPP Loans shall be deposited in a newly-established and segregated deposit account at the PPP Bank, and shall only be used by the Borrower as set forth in clause (d) above, it being agreed that notwithstanding anything to the contrary set forth in the Agreement, such account shall not be required to be a blocked account or otherwise subject to a deposit account control agreement in favor of Administrative Agent, so long as such account does not contain any funds other than the proceeds of the PPP Loans;

(f) the PPP Loans shall not be secured by a Lien on any Collateral or other assets or property of the Borrower;

(g) the Borrower shall provide to the Administrative Agent as of the First Amendment Effective Date, if and to the extent the following are not already in the Administrative Agent's possession, true, correct, and complete copies of: (1) any documents or notes evidencing the PPP Loans and all other documents, applications, reports, and correspondence entered into or delivered by or to the Borrower in connection with the PPP Loans; (2) resolutions of the board of directors of the Borrower authorizing the incurrence of the PPP Loans; and (3) any such further information or documentation reasonably requested by Administrative Agent in connection with the PPP Loan;

(h) the Borrower shall not agree to any amendment, waiver, or modification to the documentation evidencing the PPP Loans without the prior written consent of the Administrative Agent to the extent any such amendment, waiver, or modification could be adverse in any respect to Administrative Agent or Lenders; and

(i) if a Default or Event of Default has occurred, or would occur after giving effect to any such payments, then no interest or principal payments in respect of the PPP Loans shall be made in whole or in part, directly or indirectly, or any amounts set aside for such purpose (other than by segregation as required by clause (e) above), by or on behalf of the Borrower, prior to the due date therefor."

(f) By inserting the following to appear as new Section 11.23 of the Loan Agreement:

"11.23 Acknowledgement Regarding Any Supported QFCs.

To the extent that this Agreement and any document executed in connection with this Agreement (collectively, "Loan Documents") provide support, through a guarantee or otherwise, for any Swap Contract or any other agreement or instrument that is a QFC (such support, "QFC Credit Support", and each such QFC, a "Supported QFC"), the parties acknowledge and agree as follows with respect to the resolution power of the Federal Deposit Insurance Corporation under the Federal Deposit Insurance Act and Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act (together with the regulations promulgated thereunder, the "U.S. Special Resolution Regimes") in respect of such Supported QFC and QFC Credit Support (with the provisions below applicable notwithstanding that the Loan Documents and any Supported QFC may in fact be stated to be governed by the laws of the Governing Law State and/or of the United States or any other state of the United States):

(a) In the event a Covered Entity that is party to a Supported QFC (each, a "Covered Party") becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer of such Supported QFC and the benefit of such QFC Credit Support (and any interest and obligation in or under such Supported QFC and such QFC Credit Support, and any rights in property securing such Supported QFC or such QFC Credit Support) from such Covered Party will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if the Supported QFC and such QFC Credit Support (and any such interest, obligation and rights in property) were governed by the laws of the United States or a state of the United States. In the event a Covered Party or a BHC Act Affiliate of a Covered Party becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under the Loan Documents that might otherwise apply to such Supported QFC or any QFC Credit Support that may be exercised against such Covered Party are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if the Supported QFC and the Loan Documents were governed by the laws of the United States or a state of the United States. Without limitation of the foregoing, it is understood and agreed that rights and remedies of the parties with respect to a Defaulting Lender shall in no event affect the rights of any Covered Party with respect to a Supported QFC or any QFC Credit Support.

(b) As used in this paragraph, the following terms have the following meanings:

"BHC Act Affiliate" of a party means an "affiliate" (as such term is defined under, and interpreted in accordance with, 12 U.S.C. 1841(k)) of such party.

"Covered Entity" means any of the following: (i) a "covered entity" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b); (ii) a "covered bank" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or (iii) a "covered FSI" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b).

"Default Right" has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable.

"QFC" has the meaning assigned to the term "qualified financial contract" in, and shall be interpreted in accordance with, 12 U.S.C. 5390(c)(8)(D).

"Swap Contract" means (a) any and all rate swap transactions, basis swaps, credit derivative transactions, forward rate transactions, commodity swaps, commodity options, forward commodity contracts, equity or equity index swaps or options, bond or bond price or bond index swaps or options or forward bond or forward bond price or forward bond index transactions, interest rate options, forward foreign exchange transactions, cap transactions, floor transactions, collar transactions, currency swap transactions, cross-currency rate swap transactions, currency options, spot contracts, or any other similar transactions or any combination of any of the foregoing (including any options to enter into any of the foregoing), whether or not any such transaction is governed by or subject to any master agreement, and (b) any and all transactions of any kind, and the related confirmations, which are subject to the terms and conditions of, or governed by, any form of master agreement published by the International Swaps and Derivatives Association, Inc., any International Foreign Exchange Master Agreement, or any other master agreement (any such master agreement, together with any related schedules, a "Master Agreement"), including any such obligations or liabilities under any Master Agreement."

3. Effect of PPP Loans and Related Obligations on Certain Calculations, Certain Representations, Etc. Notwithstanding anything to the contrary set forth in the Credit Agreement:

(a) For purposes of calculating Consolidated Adjusted EBITDA under the Credit Agreement, in no event shall any or all of the fees, costs and expenses incurred in respect of the PPP Loans, whether or not constituting "allowable uses" under the Paycheck Protection Program, constitute or be deemed to be fees, costs or expenses added back to Consolidated Adjusted EBITDA pursuant to clause (b) of the definition thereof. In addition, in no event shall any forgiveness of the PPP Loans pursuant to the terms of the Paycheck Protection Program ("Forgiveness"), in whole or in part, or the amount thereof, at any time constitute, or be deemed to constitute or increase, Consolidated Net Income for the purpose of calculating Consolidated Adjusted EBITDA, or otherwise be added back to, or used to increase the calculation of, Consolidated Adjusted EBITDA.

(b) For purposes of calculating the Consolidated Funded Indebtedness under the Credit Agreement, the amount of the PPP Loans shall not be included in the determination of the amount of Consolidated Funded Indebtedness prior to the date of any determination of Forgiveness; except, that, from and after any applicable date of determination of Forgiveness, the principal amount of obligations of the Borrower in respect of the PPP Loans that is not subject to Forgiveness (and only such amount) shall be included in the calculation of Consolidated Funded Indebtedness.

(c) (i) The amount of all repayments of interest with respect to PPP Loans required to be made to the PPP Bank or the SBA (after giving effect to any Forgiveness, and excluding in any event any such repayments or portions thereof made from unexpended PPP Loan proceeds segregated as required by clause (e) of Section 7.02(o) of the Credit Agreement provided that such repayments are made no later than thirty (30) calendar days after the determination of Forgiveness) shall constitute Consolidated Interest Charges for purposes of calculating the Consolidated Fixed Charge Coverage Ratio under the Credit Agreement, and (ii) the amount of all repayments of principal with respect to PPP Loans required to be made by the PPP Bank or the SBA at or prior to the maturity of the PPP Loans (after giving effect to any Forgiveness, and excluding in any event any such repayments or portions thereof made from unexpended PPP Loan proceeds segregated as required by clause (e) of Section 7.02(o) of the Credit Agreement provided that such repayments are made no later than thirty (30) calendar days after the determination of Forgiveness) shall constitute regularly scheduled payments of principal on Consolidated Funded Indebtedness (as described in clause (b)(ii) of the definition of Consolidated Fixed Charge Coverage Ratio) for purposes of calculating the Consolidated Fixed Charge Coverage Ratio under the Credit Agreement.

(d) For the avoidance of doubt, the obligations of the Borrower to the PPP Bank or the SBA in respect of the PPP Loans do not, and shall in no event be construed to, constitute Obligations under the Credit Agreement or any of the other Loan Documents.

(e) The Borrower hereby represents and warrants to the Administrative Agent and Lenders that the board of directors of the Borrower has (i) held a duly called meeting to discuss and determine that the Borrower was eligible to apply for and incur the PPP Loans based on all available guidance from the SBA and the United States Department of the Treasury that was available as of the date of this First Amendment, including a determination that such PPP Loans are necessary to support the ongoing operations of the Borrower and (ii) adopted resolutions authorizing the application for, and incurrence of, the PPP Loans and setting forth its determination of the Borrower's need for the PPP Loans as set forth in clause (i) above.

4. Consent. Subject to the satisfaction of all of the conditions precedent set forth in Section 5 below, and provided that as of the First Amendment Effective Date, and after giving effect to the amendment of Section 7.02 of the Credit Agreement pursuant to this First Amendment, no Default or Event of Default otherwise exists or has occurred and is continuing under the Credit Agreement, the Administrative Agent and the Lenders hereby consent to the Borrower incurring the PPP Loans. The foregoing consent is a one-time consent only and shall not be deemed to constitute an agreement by the Administrative Agent or any Lender to consent to the incurrence of any other Indebtedness not expressly permitted by Section 7.02 of the Credit Agreement, or a consent to, or waiver of, any future breach of any other provision of the Credit Agreement or any of the other Loan Documents. In addition, nothing contained herein shall be deemed to constitute a waiver of any Default or Event of Default which may exist or have occurred and be continuing as of the date hereof.

5. Conditions to Effectiveness. This First Amendment shall become effective as of the date when, and only when, all of the following conditions have been satisfied as determined in Administrative Agent's reasonable discretion:

(a) the Administrative Agent and Lenders shall have received a copy of this First Amendment duly executed by the parties thereto;

(b) the Administrative Agent, for the benefit of itself and Lenders, shall continue to hold perfected, first priority security interests in and liens upon the Collateral, and the Administrative Agent shall have received such evidence of the foregoing as it requires;

(c) all requisite corporate, limited liability, and limited partnership actions and proceedings, as applicable, in connection with the PPP Loans, this First Amendment and the other Loan Documents, shall be satisfactory in form and substance to the Administrative Agent, and the Administrative Agent shall have received all information and copies of all documents, including records of requisite corporate, limited liability company, and limited partnership action and proceedings which the Administrative Agent may have requested in connection therewith, such documents where requested by the Administrative Agent or its counsel to be certified by appropriate corporate officers, limited liability company members or managers, or limited partners, as applicable, or Governmental Authority;

(d) the representations and warranties of the Borrower contained in this First Amendment or in the other Loan Documents shall be true and accurate as of the date hereof with the same force and effect as if such had been made on and as of the date hereof;

(e) the Administrative Agent shall have received, in form and substance satisfactory to the Administrative Agent, all consents, waivers, acknowledgments, and other agreements from third persons which the Administrative Agent may deem necessary or desirable in order to permit, protect, and perfect the security interest of the Administrative Agent, for itself and the benefit of the Lenders in, and liens upon, the Collateral, or to effectuate the provisions or purposes of this

First Amendment and the other Loan Documents; and

(f) the Administrative Agent shall have received such other instruments, documents, and agreements as it may reasonably require.

6. References. The Administrative Agent, the Lenders, and the Borrower hereby agree that all references to the Credit Agreement which are contained in any of the other Loan Documents shall refer to the Credit Agreement as amended by this First Amendment, and as the Credit Agreement may be further amended and supplemented from time to time hereafter.

7. Representations and Warranties. To induce the Administrative Agent and the Lenders to enter into this First Amendment, the Borrower hereby represents and warrants to the Administrative Agent and the Lenders that:

(a) the execution, delivery, and performance by the Borrower of the PPP Loans and this First Amendment is within its corporate, limited liability company, or limited partnership power, as applicable, and has been duly authorized by all necessary corporate, limited liability company, or limited partnership action, and does not and will not contravene or conflict with any provision of Laws applicable to the Borrower, the articles of incorporation and by-laws of the Borrower, any order, judgment, or decree of any court or Governmental Authority, or any agreement, instrument, or document binding upon the Borrower or any of its property;

(b) each of the Credit Agreement, as amended by this First Amendment, and the other Loan Documents are the legal, valid, and binding obligations of the Borrower, enforceable against the Borrower in accordance with its terms, except as the enforcement thereof may be subject to (i) the effect of any applicable bankruptcy, insolvency, reorganization, moratorium, or similar laws affecting creditor's rights generally, and (ii) general principals of equity;

(c) as of the First Amendment Effective Date, and after giving effect hereto, the representations and warranties contained in the Credit Agreement and the other Loan Documents are true and accurate as of the date hereof with the same force and effect as if such had been made on and as of the date hereof;

(d) since December 31, 2019, no event, circumstance, or change has occurred that has or could reasonably be expected to result in a Material Adverse Effect; and

(e) as of the First Amendment Effective Date, and after giving effect hereto, no Default or Event of Default has occurred and is continuing.

8. Acknowledgment of Obligations; Release of Claims.

(a) The Borrower hereby acknowledges and agrees that there is no basis or set of facts on the basis of which any of the Obligations (or any portion thereof) owed by the Borrower under the Loan Documents could be reduced, offset, waived, or forgiven, by rescission or otherwise; nor is there any claim, counterclaim, offset, or defense (or other right, remedy, or basis having a similar effect) available to the Borrower with regard thereto; nor is there any basis on which the terms and conditions of any of the Obligations could be claimed to be other than as stated on the written instruments which evidence such Obligations.

(b) The Borrower hereby acknowledges and agrees that it has no offsets, defenses, claims, or counterclaims against the Administrative Agent or any Lender, or any of its or their affiliates, predecessors, successors, or assigns, or any of its officers, directors, employees, attorneys, or representatives, with respect to the Obligations, or otherwise, and that if any Borrower now has, or ever did have, any offsets, defenses, claims, or counterclaims against the Administrative Agent, any Lender, or its or their affiliates, predecessors, successors, or assigns, or its officers, directors, employees, attorneys, or representatives, whether known or unknown, at law or in equity, from the beginning of the world through this date and through the time of execution of this First Amendment, all of them are hereby expressly **WAIVED**, and Borrower hereby **RELEASES** the Administrative Agent, the Lenders and their respective officers, directors, employees, attorneys, representatives, affiliates, predecessors, successors, and assigns from any liability therefor.

9. Further Assurances. The Borrower shall execute and deliver such additional documents and take such additional actions as any the Administrative Agent may require to effectuate the provisions and purposes of this First Amendment.

10. Miscellaneous.

(a) This First Amendment may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Delivery of an executed counterpart of a signature page of this First Amendment by fax transmission or e-mail transmission (e.g. “pdf” or “tif”) shall be effective as delivery of a manually executed counterpart of this First Amendment.

(b) This First Amendment expresses the entire understanding of the parties with respect to the transactions contemplated hereby. No prior negotiations or discussions shall limit, modify, or otherwise affect the provisions hereof.

(c) If any provision of this First Amendment is held to be illegal, invalid or unenforceable, (a) the legality, validity and enforceability of the remaining provisions of this Amendment shall not be affected or impaired thereby and (b) the parties shall endeavor in good faith negotiations to replace the illegal, invalid or unenforceable provisions with valid provisions the economic effect of which comes as close as possible to that of the illegal, invalid or unenforceable provisions. The invalidity of a provision in a particular jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

(d) The Borrower will reimburse the Administrative Agent and the Lenders for all costs and expenses (including reasonable attorneys fees and expenses) incurred by the Administrative Agent and the Lenders in connection with this First Amendment promptly after being invoiced for the same.

(e) THIS FIRST AMENDMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK.

(f) The Borrower warrants and represents that the Borrower has consulted with independent legal counsel of the Borrower’s selection in connection with this First Amendment and is not relying on any representations or warranties of Administrative Agent or its counsel in entering into this Amendment.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF, this First Amendment has been executed as of the day and year first written above.

ADMINISTRATIVE AGENT:

By: /s/ NICHOLAS STORTI
Name: Nicholas Storti
Title: Senior Vice President

LENDERS:

BANK OF AMERICA, N.A.

By: /s/ NICHOLAS STORTI
Name: Nicholas Storti
Title: Senior Vice President

THE WASHINGTON TRUST COMPANY

By: /s/ JANICE M SOARES
Name: Janice M Soares
Title: Vice President

BORROWER:

KVH INDUSTRIES, INC.

By: /s/ DONALD W. REILLY
Name: Donald W. Reilly
Title: Chief Financial Officer

Exhibit 31.1

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

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

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

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

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

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

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

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

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

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

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

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

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

Date: July 31, 2020

/s/ Martin A. Kits van Heyningen

Martin A. Kits van Heyningen

President, Chief Executive Officer and

Chairman of the Board

Exhibit 31.2

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

I, Donald W. Reilly, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: July 31, 2020

/s/ Donald W. Reilly

Donald W. Reilly

Chief Financial Officer

Exhibit 32.1

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

In connection with the Quarterly Report on Form 10-Q of KVH Industries, Inc. (the "Company") for the quarter ended June 30, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned President, Chief Executive Officer and Chairman of the Board, and Chief Financial Officer of the Company, certifies, to his best knowledge and belief, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

	/s/ Martin A. Kits van Heyningen		/s/ Donald W. Reilly
	Martin A. Kits van Heyningen		Donald W. Reilly
	President, Chief Executive Officer and Chairman of the Board		Chief Financial Officer
Date:	July 31, 2020	Date:	July 31, 2020