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

FORM 10-Q

(Mark One)

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

For the quarterly period ended: September 30, 2021
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
November 1, 2021	Common Stock, par value $0.01 per share	18,899,082

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)

	September 30, 2021 (unaudited)	December 31, 2020
ASSETS		
Current assets:		
Cash and cash equivalents	$ 9,880	$ 12,578
Marketable securities	17,146	25,141
Accounts receivable, net of allowance for doubtful accounts of $1,656 and $1,596 as of September 30, 2021 and December 31, 2020, respectively	31,955	33,687
Inventories, net	24,639	24,674
Prepaid expenses and other current assets	4,828	3,894
Current contract assets	1,079	1,086
Total current assets	89,527	101,060
Property and equipment, net	59,964	56,273
Intangible assets, net	1,462	2,254
Goodwill	6,562	6,592
Right of use assets	3,609	6,893
Other non-current assets	6,906	7,785
Non-current contract assets	2,322	2,661
Deferred income tax asset	35	73
Total assets	**$ 170,387**	**$ 183,591**
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 9,099	$ 11,400
Accrued compensation and employee-related expenses	6,705	7,156
Accrued other	8,028	6,597
Accrued product warranty costs	1,418	1,812
Current portion of long-term debt	—	4,992
Contract liabilities	4,128	4,445
Current operating lease liability	2,012	3,826
Liability for uncertain tax positions	604	560
Total current liabilities	31,994	40,788
Other long-term liabilities	96	674
Long-term operating lease liability	1,700	3,204
Long-term contract liabilities	4,252	4,688
Long-term debt, excluding current portion	—	1,935
Deferred income tax liability	375	418
Total liabilities	**$ 38,417**	**$ 51,707**
Commitments and contingencies (Notes 2, 10, 12, and 18)		
Stockholders' equity:		
Preferred stock, $0.01 par value. Authorized 1,000,000 shares; none issued	—	—
Common stock, $0.01 par value. Authorized 30,000,000 shares; 20,331,776 and 19,862,534 shares issued at September 30, 2021 and December 31, 2020, respectively; and 18,899,082 and 18,429,840 shares outstanding at September 30, 2021 and December 31, 2020, respectively	203	199
Additional paid-in capital	155,041	149,170
Accumulated deficit	(8,085)	(2,402)
Accumulated other comprehensive loss	(3,338)	(3,232)
	143,821	143,735
Less: treasury stock at cost, common stock, 1,432,694 shares as of September 30, 2021 and December 31, 2020	(11,851)	(11,851)
Total stockholders' equity	**131,970**	**131,884**
Total liabilities and stockholders' equity	**$ 170,387**	**$ 183,591**

See accompanying Notes to Unaudited Consolidated Financial Statements.

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

	Three Months Ended September 30, 2021	Three Months Ended September 30, 2020	Nine Months Ended September 30, 2021	Nine Months Ended September 30, 2020
Sales:				
Product	$ 15,239	$ 16,650	$ 50,940	$ 43,693
Service	27,745	24,462	77,699	70,913
Net sales	42,984	41,112	128,639	114,606
Costs and expenses:				
Costs of product sales	10,945	10,422	34,059	29,612
Costs of service sales	16,838	14,875	48,385	44,448
Research and development	4,335	3,548	13,407	11,701
Sales, marketing and support	7,429	6,931	22,912	22,426
General and administrative	6,666	5,839	22,514	18,006
Total costs and expenses	46,213	41,615	141,277	126,193
Loss from operations	(3,229)	(503)	(12,638)	(11,587)
Interest income	218	229	673	759
Interest expense	20	2	52	9
Other income (expense), net	7,065	(370)	6,275	971
Income (loss) before income tax expense (benefit)	4,034	(646)	(5,742)	(9,866)
Income tax expense (benefit)	16	(109)	(59)	437
Net income (loss)	**$ 4,018**	**$ (537)**	**$ (5,683)**	**$ (10,303)**
Net income (loss) per common share				
Basic	**$ 0.22**	**$ (0.03)**	**$ (0.31)**	**$ (0.58)**
Diluted	**$ 0.22**	**$ (0.03)**	**$ (0.31)**	**$ (0.58)**
Weighted average number of common shares outstanding:				
Basic	**18,341**	**17,723**	**18,152**	**17,634**
Diluted	**18,566**	**17,723**	**18,152**	**17,634**

See accompanying Notes to Unaudited Consolidated Financial Statements.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	**2020**	**2021**	**2020**
Net income (loss)	$ 4,018	$ (537)	$ (5,683)	$ (10,303)
Other comprehensive (loss) income, net of tax:				
Unrealized loss on available-for-sale securities	—	(1)	—	(1)
Foreign currency translation adjustment	(370)	1,103	(106)	(1,507)
Other comprehensive (loss) income, net of tax[(1)]	(370)	1,102	(106)	(1,508)
Total comprehensive income (loss)	$ 3,648	$ 565	$ (5,789)	$ (11,811)

(1) Tax impact was nominal for all periods.

See accompanying Notes to Unaudited Consolidated Financial Statements.

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

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Treasury Stock		Total Stockholders' Equity
	Shares	Amount				Shares	Amount	
Balance at June 30, 2021	**20,245**	**$ 202**	**$ 153,596**	**$ (12,103)**	**$ (2,968)**	**(1,433)**	**$ (11,851)**	**$ 126,876**
Net income	—	—	—	4,018	—	—	—	4,018
Other comprehensive loss	—	—	—	—	(370)	—	—	(370)
Stock-based compensation	—	—	1,042	—	—	—	—	1,042
Issuance of common stock under employee stock purchase plan	26	—	231	—	—	—	—	231
Exercise of stock options and issuance of restricted stock awards, net of forfeitures	61	1	172	—	—	—	—	173
Balance at September 30, 2021	**20,332**	**$ 203**	**$ 155,041**	**$ (8,085)**	**$ (3,338)**	**(1,433)**	**$ (11,851)**	**$ 131,970**

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Treasury Stock		Total Stockholders' Equity
	Shares	Amount				Shares	Amount	
Balance at December 31, 2020	**19,863**	**$ 199**	**$ 149,170**	**$ (2,402)**	**$ (3,232)**	**(1,433)**	**$ (11,851)**	**$ 131,884**
Net loss	—	—	—	(5,683)	—	—	—	(5,683)
Other comprehensive loss	—	—	—	—	(106)	—	—	(106)
Stock-based compensation	—	—	3,029	—	—	—	—	3,029
Issuance of common stock under employee stock purchase plan	26	—	231	—	—	—	—	231
Exercise of stock options and issuance of restricted stock awards, net of forfeitures	443	4	2,611	—	—	—	—	2,615
Balance at September 30, 2021	**20,332**	**$ 203**	**$ 155,041**	**$ (8,085)**	**$ (3,338)**	**(1,433)**	**$ (11,851)**	**$ 131,970**

	Common Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Treasury Stock		Total Stockholders' Equity
	Shares	Amount				Shares	Amount	
Balance at June 30, 2020	**19,445**	**$ 194**	**$ 146,250**	**$ 9,772**	**$ (5,377)**	**(1,433)**	**$ (11,851)**	**$ 138,988**
Net loss	—	—	—	(537)	—	—	—	(537)
Other comprehensive income	—	—	—	—	1,102	—	—	1,102
Stock-based compensation	—	—	912	—	—	—	—	912
Exercise of stock options and issuance of restricted stock awards, net of forfeitures	290	3	(16)	—	—	—	—	(13)
Balance at September 30, 2020	**19,735**	**$ 197**	**$ 147,146**	**$ 9,235**	**$ (4,275)**	**(1,433)**	**$ (11,851)**	**$ 140,452**

	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	—	—	—	(10,303)	—	—	—	(10,303)
Other comprehensive loss	—	—	—	—	(1,508)	—	—	(1,508)
Stock-based compensation	—	—	2,459	—	—	—	—	2,459
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	316	3	46	—	—	—	—	49
Balance at September 30, 2020	**19,735**	**$ 197**	**$ 147,146**	**$ 9,235**	**$ (4,275)**	**(1,433)**	**$ (11,851)**	**$ 140,452**

See accompanying Notes to Unaudited Consolidated Financial Statements.

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

	Nine Months Ended September 30, 2021	Nine Months Ended September 30, 2020
Cash flows from operating activities:		
Net loss	$ (5,683)	$ (10,303)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Provision for doubtful accounts	524	490
Depreciation and amortization	10,772	8,277
Loss on disposals of fixed assets	766	488
Compensation expense related to stock-based awards and employee stock purchase plan	3,029	2,459
Unrealized currency translation gain	(35)	(492)
PPP loan forgiveness	(6,979)	—
Changes in operating assets and liabilities:		
Accounts receivable	1,194	852
Inventories	34	(1,198)
Prepaid expenses, other current assets, and current contract assets	(955)	(88)
Other non-current assets and non-current contract assets	1,185	(776)
Accounts payable	(2,407)	(3,391)
Contract liabilities and long-term contract liabilities	(739)	(937)
Accrued compensation, product warranty and other	1,206	1,686
Other long-term liabilities	2	5
Net cash provided by (used in) operating activities	**$ 1,914**	**$ (2,928)**
Cash flows from investing activities:		
Capital expenditures	(15,239)	(10,206)
Cash paid for acquisition of intangible asset	(47)	(58)
Proceeds from sale of fixed assets	100	6
Purchases of marketable securities	(5)	(6,095)
Maturities and sales of marketable securities	8,000	13,500
Net cash used in investing activities	**$ (7,191)**	**$ (2,853)**
Cash flows from financing activities:		
Proceeds from PPP loan	—	6,927
Proceeds from stock options exercised and employee stock purchase plan	2,846	207
Repurchase of common stock	—	(390)
Payment of finance lease	(228)	(468)
Net cash provided by financing activities	**$ 2,618**	**$ 6,276**
Effect of exchange rate changes on cash and cash equivalents	(39)	(711)
Net decrease in cash and cash equivalents	**(2,698)**	**(216)**
Cash and cash equivalents at beginning of period	**12,578**	**18,365**
Cash and cash equivalents at end of period	**$ 9,880**	**$ 18,149**
Supplemental disclosure of non-cash investing activities:		
Changes in accrued other and accounts payable related to property and equipment additions	$ 154	$ 265

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 defense and commercial 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 its mobile connectivity products through an extensive international network of dealers and distributors. KVH also sells and leases products to service providers and 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-based fees, satellite connectivity services, including broadband Internet, data and Voice over Internet Protocol (VoIP) services, to its mini-VSAT Broadband customers. Our AgilePlans program, a mini-VSAT Broadband service offering, is a monthly subscription model providing global connectivity to commercial maritime customers. AgilePlans include hardware, installation, broadband Internet, VoIP, entertainment and training content and global support for a monthly fee with no minimum commitment. KVH offers AgilePlans customers a variety of airtime data plans with varying data speeds and fixed data usage levels with overage charges per megabyte, which is similar to the plans that the Company offers to its other mini-VSAT Broadband 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.

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 governments, both U.S. and foreign, 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 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, 2020 filed on March 03, 2021 with the Securities and Exchange Commission. The results for the three and nine months ended September 30, 2021 are not necessarily indicative of operating results for the remainder of the year.

Use of Estimates

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 estimates and assumptions used 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.

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

(3) 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 Financial Accounting Standards Board, or FASB, issued Accounting Standards Codification (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 incurred loss impairment methodology for financial assets measured at amortized cost with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information, including forecasted information, to develop credit loss estimates.

In November 2018, the FASB issued ASC Update No. 2018-19, *Codification Improvements to Topic 326, Financial Instruments—Credit Losses*. This update introduced an expected credit loss methodology for the impairment of financial assets measured at amortized cost. 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 to Topic 326*, *Financial Instruments—Credit Losses*, *Topic 815*, Derivatives and Hedging, and Topic 825, Financial Instruments. 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 including those pertaining to Topic 326 discussed above, for certain types of entities.

In November 2019, the FASB issued ASC Update No. 2019-11, *Codification Improvements to Topic 326, Financial Instruments—Credit Losses (Topic 326).* The update is effective for entities that have adopted ASU 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 clarify the scope and interpretation of the standard.

As a smaller reporting entity the effective date for Topic 326 will be the fiscal year beginning after December 15, 2022. The adoption of Update Nos. 2016-13, 2018-19, 2019-04, 2019-05, 2019-10, 2019-11 and 2020-20 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 the Company expects would have a material impact on the Company's financial statements.

(4) Marketable Securities

Marketable securities as of September 30, 2021 and December 31, 2020 consisted of the following:

September 30, 2021	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market mutual funds	$ 17,146	$ —	$ —	$ 17,146
Total marketable securities designated as available-for-sale	$ 17,146	$ —	$ —	$ 17,146

December 31, 2020	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market mutual funds	$ 20,142	$ —	$ —	$ 20,142
United States treasuries	4,999	—	—	4,999
Total marketable securities designated as available-for-sale	$ 25,141	$ —	$ —	$ 25,141

The effective maturity date of the United States treasuries is less than one year.

Interest income from marketable securities was $1 and $5 during the three months ended September 30, 2021 and 2020, respectively, and $5 and $132 during the nine months ended September 30, 2021 and 2020, 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 was $1,031 and $899, excluding $11 and $13 of compensation charges related to our Amended and Restated 1996 Employee Stock Purchase Plan, or the ESPP, for the three months ended September 30, 2021 and 2020, respectively, and $2,988 and $2,430, excluding $41 and $29 of compensation charges related to ESPP, for the nine months ended September 30, 2021 and 2020, respectively. As of September 30, 2021, there was $4,045 of total unrecognized compensation expense related to stock options, which is expected to be recognized over a weighted-average period of 2.62 years. As of September 30, 2021, there was $4,469 of total unrecognized compensation expense related to restricted stock awards, which is expected to be recognized over a weighted-average period of 2.4 years.

Stock Options

During the three months ended September 30, 2021, the Company issued 18 shares of common stock upon the exercise of stock options and received $143 as payment for the exercise price. No shares were surrendered to the Company to satisfy minimum tax withholding obligations. Additionally, during the three months ended September 30, 2021, no stock options were granted and 48 stock options expired, were canceled or were forfeited.

During the nine months ended September 30, 2021, the Company issued 263 shares of common stock upon the exercise of stock options and received $2,615 as payment for the exercise price. No shares were surrendered to the Company to satisfy minimum tax withholding obligations. Additionally, during the nine months ended September 30, 2021, 496 stock options were granted and 126 stock options expired, were canceled or were forfeited. During the nine months ended September 30, 2020, 654 stock options were granted. The Company has estimated the fair value of each option grant on the date of grant using the Black-Scholes option-pricing model. The weighted average assumptions utilized to determine the fair value of options granted during the nine months ended September 30, 2021 and 2020 are as follows:

	Nine Months Ended September 30,	
	2021	**2020**
Risk-free interest rate	0.92 %	0.21 %
Expected volatility	44.98 %	44.03 %
Expected life (in years)	4.28	4.29
Dividend yield	0 %	0 %

As of September 30, 2021, there were 2,142 options outstanding with a weighted average exercise price of $9.92 per share and 846 options exercisable with a weighted average exercise price of $9.33 per share.

Restricted Stock

During the three months ended September 30, 2021, 60 shares of restricted stock were granted with a weighted average grant date fair value of $11.00 per share and 17 shares of restricted stock were forfeited. Additionally, during the three months ended September 30, 2021, 68 shares of restricted stock vested, of which no shares of common stock were surrendered to the Company as payment by employees in lieu of cash to satisfy minimum tax withholding obligations in connection with the vesting of restricted stock.

During the nine months ended September 30, 2021, 217 shares of restricted stock were granted with a weighted average grant date fair value of $12.23 per share and 37 shares of restricted stock were forfeited. Additionally, during the nine months ended September 30, 2021, 228 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 September 30, 2021, there were 509 shares of restricted stock outstanding that were still subject to service-based vesting conditions.

As of September 30, 2021, 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 ESPP affords eligible employees the right to purchase common stock, via payroll deductions, through various offering periods at a purchase price equal to 85% of the fair market value of the common stock on the first or last day of the offering period, whichever is lower. During the three and nine months ended September 30, 2021, 26 shares were issued under the ESPP plan. During the three and nine months ended September 30, 2020, 0 and 20 shares were issued under the ESPP plan, respectively. The Company recorded compensation charges related to the ESPP of $11 and $13 for the three months ended September 30, 2021 and 2020, respectively, and $41 and $29 for the nine months ended September 30, 2021 and 2020, 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 nine months ended September 30, 2021 and 2020:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	**2020**	**2021**	**2020**
Cost of product sales	$ 78	$ 41	$ 194	$ 115
Cost of service sales	3	—	8	—
Research and development	150	118	491	408
Sales, marketing and support	239	163	664	456
General and administrative	572	590	1,672	1,480
	$ 1,042	**$ 912**	**$ 3,029**	**$ 2,459**

(d) Accumulated Other Comprehensive Income (Loss) (AOCI)

Comprehensive income (loss) includes net income (loss) and unrealized gains and losses from foreign currency translation. The components of the Company's comprehensive income (loss) and the effect on earnings for the periods presented are detailed in the accompanying consolidated statements of comprehensive income (loss).

The balances for the three months ended September 30, 2021 and 2020 are as follows:

	Foreign Currency Translation	**Total Accumulated Other Comprehensive Loss**
Balance, June 30, 2021	**$ (2,968)**	**$ (2,968)**
Other comprehensive loss	(370)	(370)
Net other comprehensive loss	(370)	(370)
Balance, September 30, 2021	**$ (3,338)**	**$ (3,338)**

	Foreign Currency Translation	**Unrealized Loss on Available for Sale Marketable Securities**	**Total Accumulated Other Comprehensive Loss**
Balance, June 30, 2020	**$ (5,377)**	**$ —**	**$ (5,377)**
Other comprehensive income (loss)	1,103	(1)	1,102
Net other comprehensive income (loss)	1,103	(1)	1,102
Balance, September 30, 2020	**$ (4,274)**	**$ (1)**	**$ (4,275)**

The balances for the nine months ended September 30, 2021 and 2020 are as follows:

	Foreign Currency Translation	Total Accumulated Other Comprehensive Loss
Balance, December 31, 2020	**$ (3,232)**	**$ (3,232)**
Other comprehensive loss	(106)	(106)
Net other comprehensive loss	(106)	(106)
Balance, September 30, 2021	**$ (3,338)**	**$ (3,338)**

	Foreign Currency Translation	Unrealized Loss on Available for Sale Marketable Securities	Total Accumulated Other Comprehensive Loss
Balance, December 31, 2019	**$ (2,767)**	**$ —**	**$ (2,767)**
Other comprehensive loss	(1,507)	(1)	(1,508)
Net other comprehensive loss	(1,507)	(1)	(1,508)
Balance, September 30, 2020	**$ (4,274)**	**$ (1)**	**$ (4,275)**

(6) Net Income (Loss) per Common Share

Basic net income (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 nine months ended September 30, 2021, since there was a net loss, the Company excluded all 756 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 nine months ended September 30, 2020, since there was a net loss, the Company excluded all 1,705 and 1,430, 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 September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Weighted average common shares outstanding—basic	18,341	17,723	18,152	17,634
Dilutive common shares issuable in connection with stock plans	225	—	—	—
Weighted average common shares outstanding—diluted	18,566	17,723	18,152	17,634

(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 September 30, 2021 and December 31, 2020 include the costs of material, labor, and factory overhead. Components of inventories consist of the following:

	September 30, 2021	December 31, 2020
Raw materials	$ 15,024	$ 13,957
Work in process	4,383	3,996
Finished goods	5,232	6,721
	$ 24,639	$ 24,674

(8) Property and Equipment

Property and equipment, net, as of September 30, 2021 and December 31, 2020 consist of the following:

	September 30, 2021	December 31, 2020
Land	$ 3,828	$ 3,828
Building and improvements	24,261	24,197
Leasehold improvements	473	482
Machinery and equipment	16,584	15,536
Revenue-generating assets	61,527	56,336
Office and computer equipment	14,751	13,855
Motor vehicles	31	31
	121,455	114,265
Less accumulated depreciation	(61,491)	(57,992)
	$ 59,964	$ 56,273

Depreciation expense was $3,532 and $2,624 for the three months ended September 30, 2021 and 2020, respectively, and $9,939 and $7,537 for the nine months ended September 30, 2021 and 2020, 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 September 30, 2021 and December 31, 2020, the Company had accrued product warranty costs of $1,418 and $1,812, respectively.

The following table summarizes product warranty activity during 2021 and 2020:

	Nine Months Ended September 30,	
	2021	2020
Beginning balance	$ 1,812	$ 2,194
Charges to expense	307	1,039
Costs incurred	(701)	(1,100)
Ending balance	$ 1,418	$ 2,133

(10) Debt

	September 30, 2021	December 31, 2020
PPP loan	$ —	$ 6,927
Total long-term debt	—	6,927
Less amounts classified as current	—	4,992
Long-term debt, excluding current portion	$ —	$ 1,935

Paycheck Protection Program Loan

In May 2020, the Company received a $6,927 loan (the PPP Loan) from Bank of America, N.A., (the Lender) 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 SBA).

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. Principal and interest on the PPP Loan will be payable in monthly installments, except that the Company will not be obligated to repay amounts that are forgiven. 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 is permitted to apply for forgiveness for all or a portion of the PPP Loan. In August 2021, the Company applied for forgiveness of the full amount of the PPP Loan. On September 24, 2021, the Company received notification from the Lender that, on September 19, 2021, the SBA had determined that the PPP Loan forgiveness application was approved and the PPP Loan, including all accrued interest thereon, was paid in full by the SBA. The forgiveness of the PPP Loan is recognized in Other income (expense), net in the accompanying consolidated statements of operations for the three and nine months ended September 30, 2021.

Term Note and Line of Credit

Effective October 30, 2018, the Company entered into an amended and restated three-year senior secured 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. The Company's obligations under the 2018 Credit Agreement are secured by substantially all of its assets and the pledge of equity interests in certain of its subsidiaries.

On June 27, 2019, the Company used the proceeds of the sale of its former Videotel business unit 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. As of September 30, 2021, no amounts were outstanding under the 2018 Revolver.

Borrowings under the 2018 Revolver are subject to the satisfaction of various conditions precedent at the time of each borrowing, including the continued accuracy of the Company’s representations and warranties and the absence of any default under the 2018 Credit Agreement. As of September 30, 2021, the full balance of the $15,000 facility was available for borrowing.

The 2018 Credit Agreement contains two financial covenants, a maximum Consolidated Leverage Ratio and a minimum Consolidated Fixed Charge Coverage Ratio, each as defined in the 2018 Credit Agreement. The Consolidated Leverage Ratio could not exceed 2.50:1.00 through December 31, 2020 and may not exceed 2.00:1.00 after 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 2018 Credit Agreement 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. In September 2021, the PPP Loan was forgiven in full.

On October 29, 2021, the Company amended the 2018 Credit Agreement to maintain the $15,000 2018 Revolver, extend the maturity date of the 2018 Revolver to October 28, 2022, eliminate the Consolidated Fixed Charge Coverage Ratio financial covenant, add a minimum trailing four-quarter Consolidated Adjusted EBITDA financial covenant of $3,000, modify the definition of Consolidated Adjusted EBITDA, modify the interest rate margins and certain lender fees, and transition the interest rate provisions based on LIBOR to the Bloomberg Short Term Bank Yield Index. In addition, Bank of America became the sole lender under the 2018 Credit Agreement.

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.

(11) Segment Reporting

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

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

The mobile connectivity segment primarily manufactures and distributes a comprehensive family of mobile satellite antenna products and services that provide access to television, the Internet and voice services while on the move. Product sales within the mobile connectivity segment accounted for 16% and 18% of the Company's consolidated net sales for the three months ended September 30, 2021 and 2020, respectively, and 17% and 18% of the Company's consolidated net sales for the nine months ended September 30, 2021 and 2020, respectively. Service sales of mini-VSAT Broadband airtime service accounted for 57% and 53% of the Company's consolidated net sales for the three months ended September 30, 2021 and 2020, respectively, and 54% and 53% of the Company's consolidated net sales for the nine months ended September 30, 2021 and 2020, respectively.

The inertial navigation segment manufactures and distributes a portfolio of digital compass and 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 (TACNAV) 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% and 18% of the Company's consolidated net sales for the three months ended September 30, 2021 and 2020, respectively, and 16% of the Company's consolidated net sales for both the nine months ended September 30, 2021 and 2020.

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 Singapore, Canada, Europe, countries in Africa, other Asia/Pacific countries, the Middle East, and India. Revenues are based upon customer location and internationally represented 58% and 59% of the Company's consolidated net sales for the three months ended September 30, 2021 and 2020, respectively, and 60% and 58% of the Company's consolidated net sales for the nine months ended September 30, 2021 and 2020, respectively. Sales to Singapore customers represented 11% of the Company's consolidated net sales for the three months ended September 30, 2021. No other individual foreign country represented 10% or more of the Company's consolidated net sales for the three months ended September 30, 2021. No individual foreign country represented 10% or more of the Company's consolidated net sales for the three months ended September 30, 2020. Sales to Singapore customers represented 11% and 10% of the Company's consolidated net sales for the nine months ended September 30, 2021 and 2020, respectively. No other individual foreign country represented 10% or more of the Company's consolidated net sales for the nine months ended September 30, 2021 and 2020.

As of September 30, 2021 and December 31, 2020, the long-lived tangible assets related to the Company’s international subsidiaries were less than 10% of the Company’s long-lived tangible assets.

Net sales and operating income (loss) for the Company's reporting segments and the Company's income (loss) before income tax expense (benefit) for the three and nine months ended September 30, 2021 and 2020 were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Net sales:				
Mobile connectivity	$ 34,388	$ 31,383	$ 98,650	$ 89,465
Inertial navigation	8,596	9,729	29,989	25,141
Consolidated net sales	$ 42,984	$ 41,112	$ 128,639	$ 114,606
Operating income (loss):				
Mobile connectivity	$ 1,545	$ 2,285	$ 1,728	$ 570
Inertial navigation	314	1,408	3,049	741
Subtotal	1,859	3,693	4,777	1,311
Unallocated, net	(5,088)	(4,196)	(17,415)	(12,898)
Loss from operations	(3,229)	(503)	(12,638)	(11,587)
Net interest and other income (expense)	7,263	(143)	6,896	1,721
Income (loss) before income tax expense (benefit)	$ 4,034	$ (646)	$ (5,742)	$ (9,866)

Depreciation expense and amortization expense for the Company's reporting segments for the three and nine months ended September 30, 2021 and 2020 were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Depreciation expense:				
Mobile connectivity	$ 2,963	$ 2,160	$ 8,263	$ 6,
Inertial navigation	397	318	1,165	
Unallocated	172	146	511	
Total consolidated depreciation expense	$ 3,532	$ 2,624	$ 9,939	$ 7,
Amortization expense:				
Mobile connectivity	$ 277	$ 251	$ 833	$
Inertial navigation	—	—	—	
Unallocated	—	—	—	
Total consolidated amortization expense	$ 277	$ 251	$ 833	$

(12) Legal Matters

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 October 4, 2019, the Company's Board of Directors authorized a share repurchase program pursuant to which the Company was authorized to purchase up to 1,000 shares of the Company's common stock. The program expired on October 4, 2020. Under the repurchase program, the Company, at management's discretion, was authorized to repurchase shares on the open market from time to time, in privately negotiated transactions or block transactions, or through an accelerated repurchase agreement.

In January 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 under the repurchase program since the inception of the October 4, 2019 repurchase program was 151 shares of common stock for an approximate cost of $1,690. There were no repurchase programs outstanding during the nine months ended September 30, 2021.

(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 and United States treasuries.

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 September 30, 2021 and December 31, 2020 for which the Company measures fair value on a recurring basis, by level, within the fair value hierarchy:

September 30, 2021	Total	Level 1	Level 2	Level 3	Valua Techniqu
Assets					
Money market mutual funds	$ 17,146	$ 17,146	$ —	$ —	

December 31, 2020	Total	Level 1	Level 2	Level 3	Valuation Technique
Assets					
Money market mutual funds	$ 20,142	$ 20,142	$ —	$ —	(a)
United States treasuries	4,999	4,999	—	—	(a)

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

The carrying amount of certain financial instruments 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. During 2020, the Company recorded an impairment charge of $10,490 to goodwill and intangible assets. There was no additional impairment of the Company's non-financial assets noted as of September 30, 2021. The Company does not have any liabilities that are recorded at fair value on a non-recurring basis.

(15) Goodwill and Intangible Assets

Goodwill

The following table sets forth the changes in the carrying amount of goodwill for the nine months ended September 30, 2021:

		Amounts
Balance at December 31, 2020	$	6,592
Foreign currency translation adjustment		(30)
Balance at September 30, 2021	$	6,562

Intangible Assets

The changes in the carrying amount of intangible assets during the nine months ended September 30, 2021 are as follows:

		Amounts
Balance at December 31, 2020	$	2,254
Amortization expense		(833)
Intangible assets acquired in asset acquisition		47
Foreign currency translation adjustment		(6)
Balance at September 30, 2021	$	1,462

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. Due to the impairment of distribution rights during the Company's 2020 annual impairment test, the estimated useful life of distribution rights was reduced from 15 years to 1 year. The intangibles arising from the KVH Media Group acquisition were recorded in pounds sterling and fluctuations in exchange rates 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 September 30, 2021, the carrying value of the intangible assets acquired in the asset acquisition was $393. 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. An additional $47 and $58 of consideration was earned under the contingent consideration arrangement during the nine months ended September 30, 2021 and 2020, respectively.

Acquired intangible assets are subject to amortization. The following table summarizes acquired intangible assets at September 30, 2021 and December 31, 2020, respectively:

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value
September 30, 2021			
Subscriber relationships	$ 8,014	$ 6,552	$ 1,462
Distribution rights	315	315	—
Internally developed software	446	446	—
Proprietary content	153	153	—
Intellectual property	2,284	2,284	—
	$ 11,212	$ 9,750	$ 1,462
December 31, 2020			
Subscriber relationships	$ 7,977	$ 5,958	$ 2,019
Distribution rights	311	76	235
Internally developed software	446	446	—
Proprietary content	153	153	—
Intellectual property	2,284	2,284	—
	$ 11,171	$ 8,917	$ 2,254

Amortization expense related to intangible assets was $277 and $251 for the three months ended September 30, 2021 and 2020, respectively, and $833 and $740 for the nine months ended September 30, 2021 and 2020, respectively. Amortization expense was categorized as general and administrative expense.

As of September 30, 2021, the total weighted average remaining useful lives of the definite-lived intangible assets was 1.8 years.

Estimated future amortization expense remaining at September 30, 2021 for intangible assets acquired was as follows:

Years ending December 31,	
Remainder of 2021	$ 194
2022	774
2023	312
2024	57
2025	57
Thereafter	68
Total future amortization expense	$ 1,462

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. The COVID-19 pandemic has impacted various aspects of the Company's operations, and the Company has been monitoring the impact of this global crisis carefully. The Company has particularly monitored the operations of KVH Media Group, which depends heavily on travel and travel-related industries. The revenues and cash flows of KVH Media Group have been significantly impacted by the global reduction in travel since the start of the pandemic. Prior to the Company's 2020 annual impairment test in the fourth quarter of 2020, based on the Company's quarterly review of the impact of this global crisis on the Company's forecasted revenues and cash flows, there were no indication of impairment to the carrying value of goodwill or other intangible assets. However, in the fourth quarter of 2020, there were increases in the number of reported COVID-19 cases, and substantial shutdowns were reinstated in the United States, UK and Europe, which caused continued disruptions to our KVH Media Group business as the global travel and related industries remained at historically depressed levels. In response to the impact of the pandemic, particularly with respect to the Company's KVH Media Group business, during the Company's 2020 annual budgeting and long-term planning process, the Company conducted detailed discussions with many of the Company's largest customers in the KVH Media Group to validate the Company's assumptions, which indicated further expected delays in recovery, and certain areas of the KVH Media Group business that may not recover completely or at all. Accordingly, the Company updated its long-term revenue and cash flow forecast to reflect these most recent observations. Based on the Company's other long-lived asset impairment analysis and annual goodwill impairment test, the Company recognized an intangible asset impairment charge of $1,758 and a goodwill impairment charge of $8,732 for the year ended December 31, 2020 related to KVH Media Group.

As of September 30, 2021, 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. 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. The Company's review indicates that, as of September 30, 2021, there are no indications of further impairment.

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

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.

Disaggregation of Revenue

The following table summarizes net sales from contracts with customers for the three and nine months ended September 30, 2021 and 2020:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Mobile connectivity product, transferred at point in time	$ 6,361	$ 6,671	$ 19,741	$ 18,737
Mobile connectivity product, transferred over time	490	549	2,047	1,778
Mobile connectivity service	27,537	24,163	76,862	68,950
Inertial navigation product	8,388	9,430	29,152	23,178
Inertial navigation service	208	299	837	1,963
Total net sales	$ 42,984	$ 41,112	$ 128,639	$ 114,606

Revenue recognized during the three months ended September 30, 2021 and 2020 from amounts included in contract liabilities at the beginning of the period was $430 and $523, respectively. Revenue recognized during the nine months ended September 30, 2021 and 2020 from amounts included in contract liabilities at the beginning of the period was $1,899 and $1,739, respectively.

For mobile connectivity product sales, the delivery of the Company's performance obligations, are generally transferred to the customer, and associated revenue is recognized, 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 are transferred to the customer, and associated revenue is recognized, over time. For inertial navigation product sales, the delivery of the Company's performance obligations are generally transferred to the customer, and associated revenue is recognized, at a point in time. For inertial navigation service sales, the Company's performance obligations are generally transferred to customers, and associated revenue is recognized, over time.

Business and Credit Concentrations

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

No single customer accounted for 10% or more of consolidated net sales for the three or nine months ended September 30, 2021 or 2020 or accounts receivable at September 30, 2021 or December 31, 2020.

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) Income Taxes

The Company's effective tax rate for the three and nine months ended September 30, 2021 was 0.4% and 1.0%, respectively, compared with 16.9% and (4.4)% 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 nine months ended September 30, 2021 and 2020, 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.

As of September 30, 2021 and December 31, 2020, the Company had reserves for uncertain tax positions of $604 and $560, respectively. There were no material changes during the nine months ended September 30, 2021 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 September 30, 2021 may decrease $26 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, Japan and India. In general, the statute of limitations with respect to the Company's United States federal income taxes has expired for years prior to 2017, 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.

(18) Leases

The Company has operating leases for office facilities, equipment, and satellite service capacity and related equipment. Lease expense was $920 and $435 for the three months ended September 30, 2021 and 2020, respectively, and was $2,824 and $2,688 for the nine months ended September 30, 2021 and 2020, respectively. Short-term operating lease costs were $66 and $65 for the three months ended September 30, 2021 and 2020, respectively, and were $181 and $188 for the nine months ended September 30, 2021 and 2020, respectively. Sublease income was $34 for both the three months ended September 30, 2021 and 2020 and was $101 for both the nine months ended September 30, 2021 and 2020. Maturities of lease liabilities as of September 30, 2021 under operating leases having an initial or remaining non-cancelable term of one year or more are as follows:

Remainder of 2021	$	906
2022		1,649
2023		751
2024		411
2025 and thereafter		249
Total minimum lease payments	$	3,966
Less amount representing interest	$	(254)
Present value of net minimum operating lease payments	$	3,712
Less current installments of obligation under current-operating lease liabilities	$	2,012
Obligations under long-term operating lease liabilities, excluding current installments	$	1,700
Weighted-average remaining lease term - operating leases (years)		2
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. During the first quarter of 2021, the terms of this lease were adjusted and the Company discontinued use of two satellite hubs and was released from the related payment obligation in exchange for additional satellite service capacity. As of September 30, 2021, the gross cost and accumulated amortization associated with this lease for the remaining satellite hub is included in revenue generating assets and amounted to $1,268 and $664, respectively. The obligation 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 the remaining capital assets was $45 for both the three months ended September 30, 2021 and 2020 and was $136 for both the nine months ended September 30, 2021 and 2020.

The future minimum lease payments under this financing lease as of September 30, 2021 are:

Remainder of 2021	$	66
2022		264
2023		22
Total minimum lease payments	$	352
Less amount representing interest	$	(4)
Present value of net minimum financing lease payments	$	348
Less current installments of obligation under accrued other	$	260
Obligations under other long-term liabilities, excluding current installments	$	88
Weighted-average remaining lease term - finance leases (years)		1.42
Weighted-average discount rate - finance leases		1.53 %

Lessor

The Company enters into leases with certain customers primarily for 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 $3,962 as of September 30, 2021 and the non-current portion of the net investment in these leases was $6,905 as of September 30, 2021. 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 $218 and $670 during the three and nine months ended September 30, 2021, respectively, and was $223 and $623 during the three and nine months ended September 30, 2020.

The future undiscounted cash flows from these leases as of September 30, 2021 are:

Remainder of 2021	$	1,7
2022		3,8
2023		3,2
2024		2,3
2025		9
2026		
Total undiscounted cash flows	$	12,3
Present value of lease payments	$	10,8
Difference between undiscounted cash flows and discounted cash flows	$	1,4

In 2021, the Company entered into three-year leases for its TracPhone mini-VSAT systems, in which ownership of the hardware does not transfer to the lessee by the end of the lease term. As a result, and in light of other factors indicated in ASC 842, these leases are classified as operating leases.

As of September 30, 2021, the gross costs and accumulated depreciation associated with these operating leases are included in revenue generating assets and amounted to $1,060 and $89, respectively. They are depreciated on a straight-line basis over a five-year estimated useful life. Depreciation expense for these assets was $43 and $88 for the three and nine months ended September 30, 2021, respectively.

Lease revenue recognized was $68 and $141 for the three and nine months ended September 30, 2021, respectively.

As of September 30, 2021, minimum future lease payments to be received on the operating leases are as follows:

2021	$	
2022		3
2023		3
2024		1
Total	$	8

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 report. These and many other factors could affect our future financial and operating results, and could cause actual results to differ materially from expectations based on forward-looking statements made in this document or elsewhere by us or on our behalf. For example, our expectations regarding certain items as a percentage of sales assume that we will achieve our anticipated sales goals. The following discussion and analysis should be read in conjunction with our consolidated 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 defense and commercial 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 Singapore, Canada, Europe, countries in Africa, other Asia/Pacific countries, the Middle East, and India.

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 our mobile connectivity products through an extensive international network of dealers and distributors. We also sell and lease products to service providers and 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. This segment's sales also include the 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 VoIP service to our mini-VSAT Broadband 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.

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.

PPP Loan Forgiveness

In September 2021, the U.S. Small Business Administration approved our application for the forgiveness of the $6.9 million loan (the PPP Loan) we received in May 2020 pursuant to the Paycheck Protection Program (PPP) under the Coronavirus Aid, Relief, and Economic Security Act (as modified by the Paycheck Protection Flexibility Act of 2020, the CARES Act). As a result, we recognized $7.0 million of other income during the three months ended September 30, 2021.

Impairment Charge – KVH Media Group

The COVID-19 pandemic has impacted various aspects of our operations, and we have been monitoring the impact of this global crisis carefully. We have particularly monitored the operations of KVH Media Group, which depends heavily on travel and travel-related industries. The revenues and cash flows of KVH Media Group have been significantly impacted by the global reduction in travel since the start of the pandemic. Prior to our 2020 annual impairment test in the fourth quarter of 2020, there was no indication of impairment to the carrying value of goodwill or other intangible assets. This conclusion was based on our quarterly review of the impact of this global crisis on our forecasted revenues and cash flows. However, in the fourth quarter of 2020, there were increases in the number of reported COVID-19 cases, and substantial shutdowns were reinstated in the United States, UK and Europe, which caused continued disruptions to our KVH Media Group business as the global travel and related industries remained at historically depressed levels. In response to the impact of the pandemic, particularly with respect to our KVH Media Group business, during our 2020 annual budgeting and long-term planning process, we conducted detailed discussions with many of our largest customers in the KVH Media Group to validate our assumptions, which indicated further expected delays in recovery, and certain areas of the KVH Media Group business that may not recover completely or at all. Accordingly, we updated our long-term revenue and cash flow forecast to reflect these most recent observations. Based on our other long-lived asset impairment analysis and annual goodwill impairment test, we recognized an intangible asset impairment charge of $1.8 million and a goodwill impairment charge of $8.7 million for the year ended December 31, 2020 related to KVH Media Group.

As of September 30, 2021, we have 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. 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. Our review indicates that, as of September 30, 2021, there are no indications of further impairment.

Inertial Navigation Segment

Our inertial navigation segment offers precision FOG-based systems that enable platform and optical stabilization, navigation, pointing, and guidance. Our inertial navigation products also include TACNAV 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 governments, both U.S. and foreign, 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.

Sales by Segment

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
	(in thousands)		(in thousands)	
Mobile connectivity	$ 34,388	$ 31,383	$ 98,650	$ 89,465
Inertial navigation	8,596	9,729	29,989	25,141
Net sales	$ 42,984	$ 41,112	$ 128,639	$ 114,606

Product sales within the mobile connectivity segment accounted for 16% and 18% of our consolidated net sales for the three months ended September 30, 2021 and 2020, respectively, and 17% and 18% of our consolidated net sales for the nine months ended September 30, 2021 and 2020, respectively. Sales of mini-VSAT Broadband airtime service accounted for 57% and 53% of our consolidated net sales for the three months ended September 30, 2021 and 2020, respectively, and 54% and 53% of our consolidated net sales for the nine months ended September 30, 2021 and 2020, respectively.

Within our inertial navigation segment, net sales of FOG-based guidance and navigation systems accounted for 16% and 18% of our consolidated net sales for the three months ended September 30, 2021 and 2020, respectively, and 16% of our consolidated net sales for both the nine months ended September 30, 2021 and 2020.

No other single product class accounted for 10% or more of our consolidated net sales for the three months ended September 30, 2021 or 2020 or the nine months ended September 30, 2021 or 2020. No individual customer accounted for 10% or more of our consolidated net sales for the three months ended September 30, 2021 or 2020 or the nine months ended September 30, 2021 or 2020.

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 Singapore, Canada, Europe, countries in Africa, other Asia/Pacific countries, the Middle East, and India. Revenues are based upon customer location and internationally represented 58% and 59% of our consolidated net sales for the three months ended September 30, 2021 and 2020, respectively, and 60% and 58% of our consolidated net sales for the nine months ended September 30, 2021 and 2020, respectively. Sales to Singapore customers represented 11% of our consolidated net sales for the three months ended September 30, 2021 and the nine months ended September 30, 2021. Sales to Singapore customers represented 10% of our consolidated net sales for the nine months ended September 30, 2020. 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 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 and development costs included in costs of service sales and the operating expense of research and development as described in our statement of operations. Our management believes this information is useful because it provides a better understanding of our total expenditures on research and development activities.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
	(in thousands)		(in thousands)	
Research and development expense presented on the statement of operations	$ 4,335	$ 3,548	$ 13,407	$ 11,701
Costs of customer-funded research and development included in costs of service sales	89	671	578	2,107
Total consolidated statements of operations expenditures on research and development activities	$ 4,424	$ 4,219	$ 13,985	$ 13,808

COVID-19 Global Pandemic

The COVID-19 pandemic, and the resulting impact on global economic activity and supply chains, continues to disrupt businesses around the world. The impact of the pandemic on our operating results began in the first quarter of 2020 and continued throughout the year, particularly in areas of our business impacted by global commerce (for example, maritime shipping, travel and leisure). In response to these significant uncertainties, in the second quarter of 2020 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. As part of our mitigation efforts, we applied for, and received, assistance made available by the United States government through the PPP under the CARES Act. At the beginning of the fourth quarter of 2020, we restored salaries for all of our employees to 100% of the pre-reduction levels, although we continue to limit discretionary spending. We also deferred annual salary increases for the first half of 2021. In 2021, KVH Media group has continued to be impacted by reduced domestic and international travel due to slower than anticipated rollout of vaccines, which has prolonged travel restrictions between countries. We are slowly seeing customers returning but the recovery is slower than expected. In addition, we have experienced delays in the availability and delivery of certain raw material components, which has impacted our manufacturing as well as resulted in shipping delays in getting products out to our customers. We also experienced increase in raw material costs, which we expect to continue into 2022. We are continuing to monitor global developments and are prepared to implement any actions that we determine to be necessary to sustain our business.

As of September 30, 2021, our cash, cash equivalents and marketable securities (“cash position”) approximated $27.0 million, which reflects the impact of the forgiveness of the PPP Loan. 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 should 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, 2020.

As described in our annual report on Form 10-K for the year ended December 31, 2020, our most critical accounting policies and estimates upon which our consolidated financial statements were prepared were those relating to goodwill, intangible assets, and other long-lived assets. We have reviewed our policies and estimates and determined that these remain our most critical accounting policies and estimates for the nine months ended September 30, 2021.

Readers should refer to our annual report on Form 10-K for the year ended December 31, 2020 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 September 30,		Nine Months Ended September 30,	
	2021	**2020**	**2021**	**2020**
Sales:				
Product	35.5 %	40.5 %	39.6 %	38.1 %
Service	64.5	59.5	60.4	61.9
Net sales	100.0	100.0	100.0	100.0
Cost and expenses:				
Costs of product sales	25.5	25.4	26.5	25.8
Costs of service sales	39.2	36.2	37.6	38.8
Research and development	10.1	8.6	10.4	10.2
Sales, marketing and support	17.3	16.9	17.8	19.6
General and administrative	15.5	14.2	17.5	15.7
Total costs and expenses	107.6	101.3	109.8	110.1
Loss from operations	(7.6)	(1.3)	(9.8)	(10.1)
Interest income	0.5	0.6	0.5	0.7
Interest expense	—	—	—	—
Other income (expense), net	16.4	(0.9)	4.9	0.8
Income (loss) before income tax expense (benefit)	9.3	(1.6)	(4.4)	(8.6)
Income tax expense (benefit)	—	(0.3)	—	0.4
Net income (loss)	9.3 %	(1.3)%	(4.4)%	(9.0)%

Three months ended September 30, 2021 and 2020

Net Sales

As discussed further under the heading "Segment Discussion" below, product sales decreased $1.4 million, or 8%, to $15.2 million for the three months ended September 30, 2021 from $16.7 million for the three months ended September 30, 2020, primarily due to a decrease of $1.0 million in inertial navigation product sales and a decrease of $0.4 million in mobile connectivity product sales. Service sales for the three months ended September 30, 2021 increased $3.3 million, or 13%, to $27.7 million from $24.5 million for three months ended September 30, 2020, primarily due to an increase in mobile connectivity service sales of $3.4 million, partially offset by a decrease in inertial navigation service sales of $0.1 million.

Due to a number of factors, we are uncertain that all of these revenue growth rates will continue on this trajectory for the remainder of this year and in 2022. See further discussion under the heading “Segment Discussion” below.

Costs of Sales

Costs of sales consists of costs of product sales and costs of service sales. Costs of sales increased by $2.5 million, or 10%, in the three months ended September 30, 2021 to $27.8 million from $25.3 million in the three months ended September 30, 2020. The increase in costs of sales was driven by a $2.0 million increase in costs of service sales and a $0.5 million increase in costs of product sales. As a percentage of net sales, costs of sales were 65% and 62% for the three months ended September 30, 2021 and 2020, 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 September 30, 2021, costs of product sales increased by $0.5 million, or 5%, to $10.9 million from $10.4 million in the three months ended September 30, 2020. As a percentage of product sales, costs of product sales were 72% and 63% for the three months ended September 30, 2021 and 2020, respectively. Inertial navigation costs of product sales increased by $0.4 million, or 8%, primarily due to a $0.6 million increase in expensed material and other manufacturing period costs. As a percentage of inertial navigation product sales, costs of inertial navigation product sales were 64% and 53% for the three months ended September 30, 2021 and 2020, respectively. Mobile connectivity costs of product sales increased by $0.2 million, or 3%, and mobile connectivity costs of product sales as a percentage of mobile connectivity product sales were 82% and 76% for the three months ended September 30, 2021 and 2020, respectively. The increase was primarily driven by product mix within our marine mobile connectivity cost of product sales.

Our costs of service sales consist primarily of satellite service capacity, depreciation, service network overhead expense associated with our mini-VSAT Broadband network infrastructure, direct network service labor, Inmarsat service costs, product installation costs, engineering and related direct costs associated with customer-funded research and development, media materials and distribution costs, and service repair materials. For the three months ended September 30, 2021, costs of service sales increased by $2.0 million, or 13%, to $16.8 million from $14.9 million for the three months ended September 30, 2020. As a percentage of service sales, costs of service sales were 61% for both the three months ended September 30, 2021 and 2020. Mobile connectivity costs of service sales increased by $2.6 million, or 18%, primarily due an increase in mini-VSAT airtime costs of service sales. As a percentage of mobile connectivity service sales, costs of mobile connectivity service sales were 61% and 58% for the three months ended September 30, 2021 and 2020, respectively. Inertial navigation costs of service sales decreased by $0.6 million, or 80%, primarily due to a reduction in contract engineering services. As a percentage of inertial navigation service sales, costs of inertial navigation service sales were 74% and 251% for the three months ended September 30, 2021 and 2020, respectively. The decrease in costs of inertial navigation service sales was due to a decrease in 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 September 30, 2021 increased by $0.8 million, or 22%, to $4.3 million from $3.5 million for the three months ended September 30, 2020. The primary reason for the increase in research and development expense was a $0.6 million decrease in funded engineering expenses (which are reflected in costs of service sales rather than research and development expense) and a $0.2 million increase in salaries, benefits and taxes. As a percentage of net sales, research and development expense was 10% and 9% for the three months ended September 30, 2021 and 2020, 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 September 30, 2021 increased by $0.5 million, or 7%, to $7.4 million from $6.9 million for the three months ended September 30, 2020. The increase primarily resulted from a $0.6 million increase in salaries and employee benefits and a $0.2 million increase in bad debt expense, partially offset by a $0.3 million decrease in warranty expense. As a percentage of net sales, sales, marketing and support expense was 17% for both the three months ended September 30, 2021 and 2020.

General and administrative expense consists of costs attributable to management, finance and accounting, information technology, human resources, certain outside professional services, and other administrative costs. General and administrative expense for the three months ended September 30, 2021 and 2020 increased by $0.8 million, or 14%, to $6.7 million compared to $5.8 million, respectively. The increase primarily resulted from a $0.4 million increase in professional fees and a $0.2 million increase in salaries and employee benefits. As a percentage of net sales, general and administrative expense was 16% and 14% for the three months ended September 30, 2021 and 2020, respectively.

Interest and Other Income (Expense), Net

Interest income represents interest earned on our cash and cash equivalents, as well as from investments and our sale-type lease receivables. Interest income remained flat period-over-period at $0.2 million for the three months ended September 30, 2021 and 2020. Interest expense remained flat period-over-period at less than $0.1 million for the three months ended September 30, 2021 and 2020. Other income (expense), net increased to other income of $7.1 million for the three months ended September 30, 2021 from other expense of $0.4 million for the three months ended September 30, 2020 primarily due the forgiveness of the PPP Loan.

Income Tax Expense (Benefit)

Income tax expense for the three months ended September 30, 2021 was less than $0.1 million and related to taxes on income earned in foreign jurisdictions. The PPP Loan was forgiven during the three months ended September 30, 2021, giving rise to U.S. generated income, but these proceeds were not taxable. The operating losses incurred in the U.S. for the three months ended September 30, 2021 did not generate any income tax benefit during the quarter due to a full valuation allowance on our related deferred tax assets. Income tax benefit for the three months ended September 30, 2020 was $0.1 million and related to operating losses in foreign jurisdictions.

Segment Discussion - Three months ended September 30, 2021 and 2020

Our net sales by segment for the three months ended September 30, 2021 and 2020 were as follows:

	For the three months ended September 30,		Change 2021 vs. 2020	
	2021	2020	$	%
	(dollars in thousands)			
Mobile connectivity sales:				
Product	$ 6,851	$ 7,220	$ (369)	(5)%
Service	27,537	24,163	3,374	14 %
Net sales	$ 34,388	$ 31,383	$ 3,005	10 %
Inertial navigation sales:				
Product	$ 8,388	$ 9,430	$ (1,042)	(11)%
Service	208	299	(91)	(30)%
Net sales	$ 8,596	$ 9,729	$ (1,133)	(12)%

Operating income (loss) by segment for the three months ended September 30, 2021 and 2020 were as follows:

	For the three months ended September 30,		Change 2021 vs. 2020	
	2021	2020	$	%
	(dollars in thousands)			
Mobile connectivity	$ 1,545	$ 2,285	$ (740)	(32)%
Inertial navigation	314	1,408	(1,094)	(78)%
	$ 1,859	$ 3,693	$ (1,834)	(50)%
Unallocated	(5,088)	(4,196)	(892)	(21)%
Loss from operations	$ (3,229)	$ (503)	$ (2,726)	nm

Mobile Connectivity Segment

Net sales in the mobile connectivity segment increased by $3.0 million, or 10%, for the three months ended September 30, 2021 as compared to the three months ended September 30, 2020. Mobile connectivity product sales decreased by $0.4 million to $6.9 million for the three months ended September 30, 2021 from $7.2 million for the three months ended September 30, 2020. The decrease in mobile connectivity product sales was primarily due to a decrease in TracPhone product sales. The decrease in TracPhone product sales was due a shift in product mix toward our smaller, less expensive products.

Mobile connectivity service sales increased by $3.4 million, or 14%, to $27.5 million for the three months ended September 30, 2021 from $24.2 million for the three months ended September 30, 2020. The increase was primarily due to a $2.9 million increase in our mini-VSAT service sales, which resulted in part from a 12% increase in subscribers, primarily as a result of AgilePlans, and a $0.3 million increase in our content service sales. This increase in mobile connectivity service sales was partially minimized due to $0.9 million of revenue recognized during the three months ended September 30, 2020 as a result of a favorable resolution of a contractual matter with a particular customer.

As previously announced, we are in the process of transitioning our legacy network airtime customers to our HTS network, and we plan to terminate our legacy network at the end of 2021. We anticipate that some of our legacy network airtime customers will not transition to our HTS network, in which case we will lose the revenue currently generated by those customers, which will slow the mini-VSAT service sales growth. For more information, see “Risk Factors — Risks related to our operations — We expect to terminate our legacy satellite network by the end of 2021, which we expect will result in a loss of business from customers who are unable or unwilling to convert to our HTS network.”

Operating income for the mobile connectivity segment decreased $0.7 million for the three months ended September 30, 2021 to an operating gain of $1.5 million as compared to an operating gain of $2.3 million for the three months ended September 30, 2020 primarily due to a $0.8 million increase in salaries, benefits and taxes, primarily due to reinstating salaries that were temporarily reduced in connection with our response to Covid-19. This increase was partially offset by an increase in sales less associated costs of $0.3 million.

Inertial Navigation Segment

Net sales in the inertial navigation segment decreased $1.1 million, or 12%, for the three months ended September 30, 2021 as compared to the three months ended September 30, 2020. Inertial navigation product sales decreased $1.0 million, or 11%, to $8.4 million for the three months ended September 30, 2021 from $9.4 million for the three months ended September 30, 2020, primarily as a result of a $0.6 million decrease in our TACNAV product sales and a $0.5 million decrease in FOG and OEM product sales.

Inertial navigation service sales decreased $0.1 million, or 30%, to $0.2 million for the three months ended September 30, 2021 from $0.3 million for the three months ended September 30, 2020. The decrease was due to a $0.2 million decrease in contract engineering service revenues, partially offset by $0.1 million increase in repair services revenue.

Our operating income for the inertial navigation segment decreased $1.1 million to $0.3 million for the three months ended September 30, 2021 as compared to $1.4 million for the three months ended September 30, 2020, primarily due to a decrease in sales less associated costs of $0.9 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 $0.9 million, or 21%, for the three months ended September 30, 2021 as compared to the three months ended September 30, 2020, primarily due to a $0.4 million increase in professional fees and a $0.4 million increase in salaries, benefits and taxes.

Nine months ended September 30, 2021 and 2020

Net Sales

As discussed further under the heading "Segment Discussion" below, product sales increased $7.2 million, or 17%, to $50.9 million for the nine months ended September 30, 2021 from $43.7 million for the nine months ended September 30, 2020, primarily due to an increase in inertial navigation product sales of $6.0 million and an increase of $1.3 million in mobile connectivity product sales. Service sales for the nine months ended September 30, 2021 increased $6.8 million, or 10%, to $77.7 million from $70.9 million for the nine months ended September 30, 2020 due to an increase in mobile connectivity service sales of $7.9 million, partially offset by a decrease in inertial navigation service sales of $1.1 million.

Costs of Sales

Costs of sales increased by $8.4 million, or 11%, in the nine months ended September 30, 2021 to $82.4 million from $74.1 million in the nine months ended September 30, 2020. The increase in costs of sales was driven by a $4.4 million increase in costs of product sales and a $3.9 million increase in costs of service sales. As a percentage of net sales, costs of sales were 64% and 65% for the nine months ended September 30, 2021 and 2020, respectively.

For the nine months ended September 30, 2021, costs of product sales increased by $4.4 million, or 15%, to $34.1 million from $29.6 million in the nine months ended September 30, 2020. As a percentage of product sales, costs of product sales were 67% and 68% for the nine months ended September 30, 2021 and 2020, respectively. Inertial navigation costs of product sales increased by $3.4 million, or 25%, primarily due to a $1.3 million increase in our TACNAV costs of product sales, a $1.0 million increase in expensed material and other manufacturing period cost, and a $0.9 million increase in FOG cost of product sales. Sales volume was the primary reason for the increase in both TACNAV and FOG cost of product sales. Inertial navigation costs of product sales as a percentage of inertial navigation product sales was 59% for both the nine months ended September 30, 2021 and 2020, respectively. Mobile connectivity costs of product sales increased by $1.0 million, or 6%, primarily due to an increase in our marine mobile connectivity cost of product sales. Mobile connectivity costs of product sales as a percentage of mobile connectivity product sales were 78% and 77% for the nine months ended September 30, 2021 and 2020, respectively.

For the nine months ended September 30, 2021, costs of service sales increased by $3.9 million, or 9%, to $48.4 million from $44.4 million for the nine months ended September 30, 2020. As a percentage of service sales, costs of service sales were 62% and 63% for the nine months ended September 30, 2021 and 2020, respectively. Mobile connectivity costs of service sales increased by $5.5 million, or 13%, primarily due a $5.8 million increase in mini-VSAT airtime costs of services sales, partially offset by a $0.3 million decrease in other mobile connectivity service costs. Mobile connectivity costs of service sales as a percentage of mobile connectivity service sales was 62% and 61% for the nine months ended September 30, 2021 and 2020, respectively. Inertial navigation costs of service sales decreased by $1.5 million, or 67%, due to a decrease in contract engineering services sales. Inertial navigation costs of service sales as a percentage of inertial navigation service sales was 90% and 116% for the nine months ended September 30, 2021 and 2020, respectively.

Operating Expenses

Research and development expense for the nine months ended September 30, 2021 increased by $1.7 million, or 15%, to $13.4 million from $11.7 million for the nine months ended September 30, 2020. The primary reason for the increase in research and development expense was a $1.5 million decrease in funded engineering expenses (which are reflected in costs of service sales rather than research and development expense), a $0.3 million increase in salaries, benefits and taxes, and a $0.2 million increase in outside consulting, partially offset by a $0.2 million decrease in expensed materials. As a percentage of net sales, research and development expense was 10% for both the nine months ended September 30, 2021 and 2020.

Sales, marketing and support expense for the nine months ended September 30, 2021 increased by $0.5 million, or 2%, to $22.9 million from $22.4 million for the nine months ended September 30, 2020. During the nine months ended September 30, 2021, sales, marketing and support expense reflected a $1.5 million increase in salaries, benefits and taxes, which was offset by a $0.8 million decrease in warranty expenses and a $0.2 million decrease in travel expenses. As a percentage of net sales, sales, marketing and support expense was 18% and 20% for the nine months ended September 30, 2021 and 2020, respectively.

General and administrative expense for the nine months ended September 30, 2021 increased by $4.5 million, or 25%, to $22.5 million from $18.0 million for the nine months ended September 30, 2020. The increase in general and administrative expense resulted primarily from a $3.7 million increase in professional fees, primarily arising from a stockholder’s nomination of a competing slate of directors at our annual meeting of stockholders, a $0.5 million increase in salaries, benefits and taxes and a $0.2 million increase in computer-related expenses. As a percentage of net sales, general and administrative expense was 18% and 16% for the nine months ended September 30, 2021 and 2020, respectively.

Interest and Other Income, Net

Interest income decreased $0.1 million to $0.7 million for the nine months ended September 30, 2021 from $0.8 million for the nine months ended September 30, 2020, primarily due to lower interest related to our marketable securities. Interest expense remained flat period-over-period at less than $0.1 million for the nine months ended September 30, 2021 and 2020. Other income, net increased to $6.3 million for the nine months ended September 30, 2021 from $1.0 million for the prior period primarily due to the forgiveness of the PPP Loan.

Income Tax (Benefit) Expense

Income tax benefit for the nine months ended September 30, 2021 was $0.1 million and related to losses generated in foreign jurisdictions. Income tax expense for the nine months ended September 30, 2020 was $0.4 million and related to taxes on income earned in foreign jurisdictions. The losses we incurred in the US did not generate any income tax benefit during the period due to a full valuation allowance on our related deferred tax assets.

Segment Discussion - Nine months ended September 30, 2021 and 2020

Our net sales by segment for the nine months ended September 30, 2021 and 2020 were as follows:

	For the nine months ended September 30,		Change 2021 vs. 2020	
	2021	2020	$	%
	(dollars in thousands)			
Mobile connectivity sales:				
Product	$ 21,788	$ 20,515	$ 1,273	6 %
Service	76,862	68,950	7,912	11 %
Net sales	$ 98,650	$ 89,465	$ 9,185	10 %
Inertial navigation sales:				
Product	$ 29,152	$ 23,178	$ 5,974	26 %
Service	837	1,963	(1,126)	(57)%
Net sales	$ 29,989	$ 25,141	$ 4,848	19 %

Operating income (loss) by segment for the nine months ended September 30, 2021 and 2020 were as follows:

	For the nine months ended September 30,		Change 2021 vs. 2020	
	2021	2020	$	%
	(dollars in thousands)			
Mobile connectivity	$ 1,728	$ 570	$ 1,158	nm
Inertial navigation	3,049	741	2,308	nm
	$ 4,777	$ 1,311	$ 3,466	nm
Unallocated	(17,415)	(12,898)	(4,517)	(35)%
Loss from operations	$ (12,638)	$ (11,587)	$ (1,051)	(9)%

Mobile Connectivity Segment

Net sales in the mobile connectivity segment increased by $9.2 million, or 10%, for the nine months ended September 30, 2021 as compared to the nine months ended September 30, 2020. Mobile connectivity product sales increased by $1.3 million, or 6%, to $21.8 million for the nine months ended September 30, 2021 from $20.5 million for the nine months ended September 30, 2020. The increase in mobile connectivity product sales was primarily due to a $1.0 million increase in TracVision product sales and a $0.2 million increase in marine accessories product sales. The increases in TracVision product sales was primarily due to an increase in sales volume.

Mobile connectivity service sales increased by $7.9 million, or 11%, to $76.9 million for the nine months ended September 30, 2021 from $69.0 million for the nine months ended September 30, 2020. The increase was primarily due to an $8.0 million increase in our mini-VSAT service sales compared to the nine months ended September 30, 2020, which resulted in part from a 12% increase in subscribers, primarily as a result of AgilePlans. Partially offsetting this increase was a $0.3 million decrease in content service sales. This increase in mobile connectivity service sales was partially minimized due to $0.9 million of revenue recognized during the nine months ended September 30, 2020 as a result of a favorable resolution of a contractual matter with a particular customer.

Operating income for the mobile connectivity segment increased by $1.2 million for the nine months ended September 30, 2021 to operating income of $1.7 million as compared to an operating income of $0.6 million for the nine months ended September 30, 2020. This increase resulted primarily from an increase in sales less associated costs of $2.7 million and a $0.8 million decrease in warranty expense, partially offset by a $1.5 million increase in salaries, benefits and taxes, primarily due to reinstating salaries that were temporarily reduced in connection with our response to Covid-19, a $0.2 million increase in professional fees and a $0.2 million increase in depreciation and amortization expense.

Inertial Navigation Segment

Net sales in the inertial navigation segment increased $4.8 million, or 19%, for the nine months ended September 30, 2021 as compared to the nine months ended September 30, 2020. Inertial navigation product sales increased by $6.0 million, or 26%, to $29.2 million for the nine months ended September 30, 2021 from $23.2 million for the nine months ended September 30, 2020. This increase was due to a $4.1 million increase in TACNAV product sales and a $1.9 million increase in sales of our FOG and OEM products. For more information, see “Risk Factors — Risks related to government sales — 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. 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.”

Inertial navigation service sales decreased $1.1 million, or 57%, to $0.8 million for the nine months ended September 30, 2021 from $2.0 million for the nine months ended September 30, 2020. This decrease was primarily attributable to a decrease in contract engineering service revenue due to the conclusion of a project for a major U.S. defense customer.

Our operating income for the inertial navigation segment increased by $2.3 million to operating income of $3.0 million for the nine months ended September 30, 2021 as compared to an operating income of $0.7 million for the nine months ended September 30, 2020. This increase was primarily due to the increase in sales less associated costs of $2.9 million, partially offset by a decrease in funded engineering expenses.

Unallocated

Unallocated operating loss increased $4.5 million, or 35%, for the nine months ended September 30, 2021 as compared to the nine months ended September 30, 2020 primarily due to a $3.6 million increase in professional fees, primarily arising from a stockholder’s nomination of a competing slate of directors at our annual meeting of stockholders, a $0.7 million increase in salaries, benefits and taxes, and a $0.2 million increase in computer-related expenses.

Backlog

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

Our backlog for all products and services was $25.4 million and $20.4 million as of September 30, 2021 and December 31, 2020, respectively. As of September 30, 2021, $8.8 million of our backlog was scheduled for fulfillment in 2021, $9.2 million was scheduled for fulfillment in 2022, and $7.4 million was scheduled for fulfillment in 2023 through 2025.

Backlog consists of orders evidenced by written agreements and specified delivery dates for customers who are acceptable credit risks. We do not include satellite connectivity service sales in our backlog even though many of our satellite connectivity customers have signed annual or multi-year service contracts providing for a fixed monthly fee. Military orders included in backlog are generally subject to cancellation for the convenience of the customer. When orders are canceled, we generally recover actual costs incurred through the date of cancellation and the costs resulting from termination. As of September 30, 2021, our backlog included $8.5 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 have been to fund general business requirements, including working capital requirements, capital expenditures, and, until recently, interest payments and debt repayments. In recent years, we have funded our operations primarily from cash flows from operations, an asset sale, bank financings, proceeds received from exercises of stock options and proceeds from the issuance of stock.

In May 2020, we received a $6.9 million loan from Bank of America, N.A. (the Lender), under the PPP, which was established under the CARES Act. Pursuant to the terms of the CARES Act, in August 2021, we applied for forgiveness of the full amount of the PPP Loan. On September 24, 2021, we received notification from the bank that, on September 19, 2021, the U.S. Small Business Administration (the SBA) had determined that the PPP Loan forgiveness application was approved, and the PPP Loan, including all accrued interest thereon, was paid in full by the SBA.

As of September 30, 2021, we had $27.0 million in cash, cash equivalents, and marketable securities, of which $2.5 million in cash and cash equivalents was held in local currencies by our foreign subsidiaries. Our foreign subsidiaries held no marketable securities as of September 30, 2021. As of September 30, 2021, we had $57.5 million in working capital. Based upon our current working capital position, current operating plans and expected business conditions, we expect to have sufficient funds, through at least twelve months from the date that this quarterly report on Form 10-Q is filed with the SEC, to fund our short-term and long-term working capital requirements, including capital expenditures and contractual obligations, primarily using our existing cash, cash equivalents and marketable securities and our operating cash flow. Our funding plans for our working capital needs and other commitments may be adversely impacted if our underlying assumptions regarding our anticipated revenues and expenses are not realized. If our operating results fail to meet our expectations, we could be required to seek additional funding through public or private financings or other arrangements. In that event, adequate funds may not be available when needed or may be available only on terms which could have a negative impact on our business and results of operations. In addition, if we raise funds by issuing equity securities, our stockholders may experience dilution.

Net cash provided by operations was $1.9 million for the nine months ended September 30, 2021 compared to net cash used in operations of $2.9 million for the nine months ended September 30, 2020. The $4.8 million increase in cash provided by operations is primarily due to a $4.6 million decrease in net loss, a $2.0 million decrease in cash outflows relating to other non-current assets and non-current contract assets, a $1.2 million decrease in cash outflows relating to inventories, a $1.0 million decrease in cash outflows relating to accounts payable, and a $0.3 million increase in cash inflows relating to accounts receivable. Partially offsetting these items were a $3.1 million decrease in non-cash items, which was primarily driven by the PPP loan forgiveness, a $0.9 million increase in cash outflows relating to prepaid expenses, other current assets, and current contract assets, and a $0.5 million increase in cash outflows relating to accrued compensation, product warranty and other.

Net cash used in investing activities was $7.2 million for the nine months ended September 30, 2021 compared to net cash used in investing activities of $2.9 million for the nine months ended September 30, 2020. The $4.3 million increase in net cash used in investing activities was principally due to the $5.0 million increase in capital expenditures, offset in part by a $0.6 million net decrease in investments in marketable securities.

Net cash provided by financing activities was $2.6 million for the nine months ended September 30, 2021 compared to net cash provided by financing activities of $6.3 million for the nine months ended September 30, 2020. The $3.7 million decrease in net cash provided by financing activities is primarily attributable to the $6.9 million decrease in cash inflows from long-term borrowings. This decrease in cash inflows was partially offset by a $2.6 million increase in cash inflows relating to proceeds from stock options exercised and the employee stock purchase plan and a $0.4 million decrease 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 from the Lender under the PPP, which was established under the CARES Act and is administered by the SBA.

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. Principal and interest on the PPP Loan will be payable in monthly installments, except that we will not be obligated to repay amounts that are forgiven. 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 PPP.

Pursuant to the terms of the CARES Act, we are permitted to apply for forgiveness for all or a portion of the PPP Loan. In August 2021, we applied for forgiveness of the full amount of the PPP Loan. On September 24, 2021, we received notification from the Lender that, on September 19, 2021, the SBA had determined that the PPP Loan forgiveness application was approved, and the PPP Loan, including all accrued interest thereon, was paid in full by the SBA. The forgiveness of the PPP Loan is recognized in Other income (expense), net in the accompanying consolidated statements of operations for the three and nine months ended September 30, 2021.

Term Note and Line of Credit

Effective October 30, 2018, we entered into an amended and restated three-year senior secured 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. Our obligations under the 2018 Credit Agreement are secured by substantially all of our assets and the pledge of equity interests in certain of our subsidiaries.

On June 27, 2019, we used the proceeds of the sale of our former Videotel business unit 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. As of September 30, 2021, no amounts were outstanding under the 2018 Revolver.

Borrowings under the 2018 Revolver are subject to the satisfaction of various conditions precedent at the time of each borrowing, including the continued accuracy of our representations and warranties and the absence of any default under the 2018 Credit Agreement. As of September 30, 2021, the full balance of the $15.0 million facility was available for borrowing.

The 2018 Credit Agreement contains two financial covenants, a maximum Consolidated Leverage Ratio and a minimum Consolidated Fixed Charge Coverage Ratio, each as defined in the 2018 Credit Agreement. The Consolidated Leverage Ratio could not exceed 2.50:1.00 through December 31, 2020 and may not exceed 2.00:1.00 after 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 2018 Credit Agreement to reflect the incurrence of the PPP loan. Under the amended agreement, 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. In September 2021, the PPP Loan was forgiven in full.

On October 29, 2021, we amended the 2018 Credit Agreement to maintain the $15.0 million 2018 Revolver, extend the maturity date of the 2018 Revolver to October 28, 2022, eliminate the Consolidated Fixed Charge Coverage Ratio financial covenant, add a minimum trailing four-quarter Consolidated Adjusted EBITDA financial covenant of $3.0 million, modify the definition of Consolidated Adjusted EBITDA, modify the interest rate margins and certain lender fees, and transition the interest rate provisions based on LIBOR to the Bloomberg Short Term Bank Yield Index. In addition, Bank of America became the sole lender under the 2018 Credit Agreement.

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.

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 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 October 4, 2019, our Board of Directors authorized a share repurchase program pursuant to which we were authorized to purchase up to one million shares of our common stock. The program expired on October 4, 2020. Under the repurchase program, at management's discretion, we were authorized to repurchase shares on the open market from time to time, in privately negotiated transactions or block transactions, or through an accelerated repurchase agreement.

In January 2020, we had repurchased 35,256 shares of common stock in open market transaction at a cost of approximately $0.4 million. The total amount we repurchased under the October 4, 2019 repurchase program was 150,272 shares of common stock at an approximate cost of $1.7 million. There were no repurchase programs outstanding during the nine months ended September 30, 2021.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, which are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure. Under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, our management has evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2021, the end of the period covered by this interim report. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of September 30, 2021.

Changes in Internal Control over Financial Reporting

Under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, our management has evaluated changes in our internal control over financial reporting that occurred during the third quarter of 2021. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer did not identify any change in our internal control over financial reporting during the third quarter of 2021 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

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, 2020, 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.

Risks related to our financial performance

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

We recorded substantial losses from continuing operations in each of the last three fiscal years and the first nine months of 2021 (without taking into account the income we recognized from the forgiveness of the PPP Loan). We expect to incur substantial losses in the near future as we continue to bear the expenses of maintaining two satellite networks during the transition of our mini-VSAT customers 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, as we confront the impact of the COVID-19 pandemic on our business 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. 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. 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.

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

Our future net sales and results of operations could continue to vary significantly from quarter to quarter due to a number of factors, many of which are outside our control. Accordingly, you should not rely on quarter-to-quarter comparisons of our results of operations as an indication of future performance. It is possible that our net sales or results of operations in a quarter will fall below the expectations of securities analysts or investors. If this occurs, the market price of our common stock could fall significantly. Our results of operations in any quarter can fluctuate for many reasons, including changes in demand for our products and services; the timing and size of individual orders from military customers, which may be delayed or canceled for various reasons; delays in order fulfillment, including as a result of shortages of components and raw materials; 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 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; expenses incurred in responding to stockholder activism; general economic climate; seasonality of pleasure boat and recreational vehicle usage; and the impact of the COVID-19 pandemic.

In light of our current and anticipated investments in research and development and the expansion of our HTS network, we expect that our operating expenses in upcoming quarters may 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.

Additional impairments to goodwill or other intangible assets could result in 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. In 2020, our annual impairment test resulted in an impairment charge of $10.5 million in our KVH Media reporting unit. Even after recording this impairment, our consolidated balance sheet continues to include $8.0 million of goodwill and other intangible assets, of which $3.6 million relates to KVH Media Group. There can be no assurance that our remaining goodwill and other intangible assets will not be further impaired, especially if the global COVID-19 pandemic continues to impact the markets in which our Media Group operates.

Risks related to our operations

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 costs that do not generally vary directly in proportion with the volume of service sales, and we have limited ability to reduce these fixed costs in the short term. These costs have increased significantly each year as we have further expanded our network to accommodate additional subscriber demand and/or coverage areas, and we expect that this trend will continue in 2021 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. 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.

The operation of our HTS and legacy satellite networks is causing us to incur significant additional operating costs that adversely affect our operating profit.

In November 2017, we launched our HTS communications service that uses Intelsat's Global IntelsatOne Flex managed services and SKY-Perfect JSAT capacity. We also continue to operate our legacy global network of leased satellite transponders and terrestrial teleports in cooperation with ViaSat, Inc. The operation of both the HTS network and the legacy network has resulted and will continue to result in significant additional operating costs. Our arrangement with ViaSat is currently scheduled to expire in 2021. We expect that the arrangement with ViaSat and related satellite operators will be phased out by the end of 2021, but the reliability of the existing satellite network will need to be maintained during the entirety of the wind-down period. Our focus on the HTS network creates potential risks with respect to the continued operation of our legacy satellite communications network and our contractual arrangement with ViaSat and satellite operators.

We expect to terminate our legacy satellite network by the end of 2021, which we expect will result in a loss of business from customers who are unable or unwilling to convert to our HTS network.

Our maritime airtime services networks generated approximately $69.1 million of revenue for the nine months ended September 30, 2021. As of September 30, 2021, approximately 21% of our maritime airtime subscribers, representing approximately 25% of this revenue, relied on our legacy airtime network. We intend to provide various incentives to these customers, such as free or discounted upgrade kits and terminals, to entice them to convert their service to our HTS network by the end of 2021, but these efforts may not be successful. Our inability to convert our legacy satellite customers to our HTS network would result in the loss of the revenue generated by those customers. As of the date of the filing of this quarterly report, we expect that maritime airtime subscribers representing approximately 10% of our airtime services revenue for the first nine months of 2021 will not migrate to our HTS network or may delay their migration, and we will need to identify new customers to replace the revenue they generate. In addition, the costs that we may need to incur to convert our remaining legacy maritime airtime customers to our HTS network may be significant. There can be no assurance that we will retain our legacy airtime customers when we terminate our legacy network at the end of 2021 or that the costs we incur to convert these customers will result in profitability either in the short term or the long term.

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. We may need to expand capacity in existing coverage areas to support our subscriber base. If we are unable to reach economical agreements 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.

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.

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 all 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.

Acquisitions and strategic relationships may disrupt our operations or adversely affect our results.

We evaluate opportunities to acquire other businesses and pursue other strategic relationships as they arise. The expenses we incur evaluating and pursuing acquisitions and strategic relationships 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, and any acquisition or strategic relationship may increase our operating expenses. Further, our approach to acquisitions and strategic relationships 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 abandoned acquisition; diversion of our management's time, attention, and resources; loss of key personnel; increased costs to improve or coordinate managerial, operational, financial, and administrative systems, including internal control over financial reporting; dilutive issuances of equity securities; the assumption of legal liabilities; and losses arising from impairment charges associated with goodwill or intangible assets.

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 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; secure appropriate satellite capacity to match changes in demand for airtime services; successfully attract, train, motivate and manage appropriate numbers of employees for manufacturing, sales, and customer support activities; effectively manage our inventory and working capital; 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.

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, and Brent Bruun, our Chief Operating Officer. If we lost the services of Mr. Kits van Heyningen or Mr. Bruun, 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.

Risks related to our dependence on technology and third parties

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 in Mexico, the Sky UK service in the United Kingdom, Canal+ service in France and Movistar service in Spain 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. 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 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 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.

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 license this content from third parties on a non-exclusive basis without long-term license agreements. Any content provider could terminate our arrangements without notice or could adversely modify the terms of the arrangement, including 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 based in part on the revenue we generate from sublicenses, and our licensors generally have the right to audit our records. Failure to pay required license fees could result in termination of our license rights, penalties and 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.

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 prevent or detect cybersecurity breaches or determine the extent of any breach, and there can be no assurance that undetected breaches have not already occurred. 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.

Risks related to economic conditions and trade relations

Our revenues, results of operations and financial condition have been, and are expected to be, adversely impacted by economic turmoil, political events, macroeconomic conditions, credit tightening and associated declines in consumer and enterprise spending, and by the continuation of the COVID-19 pandemic.

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 departure of the United Kingdom from the European Union, changes in government priorities, trade wars, a government shutdown, gridlock from a divided Congress, and liquidity concerns. These factors vary in intensity by region. Further, in response to the COVID-19 pandemic, governments have implemented, revised, withdrawn, reinstituted and expanded extensive safety precautions, including quarantines, travel restrictions, business closures, cancellations of public gatherings and other measures. Other organizations and individuals continue to take 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 our costs.

Travel restrictions and safety precautions have also limited our ability to service and install our equipment. Although we are unable to predict the ongoing impact of the pandemic, our mobile communications business in particular largely depends 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 continue to 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 government recommendations and have made modifications to our operations because of the pandemic. 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 have negatively impacted, and could continue to negatively impact, our supply chain and continue to cause delays in the delivery of raw materials, components and other supplies that we need to conduct our operations and generate revenue. The extent to which the pandemic will continue to 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 vaccines, the scope of governmental and other restrictions on travel and other activity, and public reactions to these factors.

There can be no assurances that government programs to maintain or improve economic conditions, including stimulus and other aid programs intended to combat the impact of the pandemic, 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, particularly in relation to the COVID-19 pandemic, to varying degrees and for varying amounts of time, in all our geographic markets.

Changes 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 change in U.S. presidential administrations may alter the U.S.'s approach to international trade, which may impact existing bilateral or multi-lateral trade agreements and treaties with foreign countries. The U.S. has imposed tariffs on certain foreign goods and may increase tariffs or impose new ones, and certain foreign governments have retaliated and may continue to do so. We derive a majority of our revenues from international sales, which makes us especially vulnerable to increased tariffs. Changes in U.S. trade policy 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.

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 2019 and 2020, the U.S. dollar strengthened slightly against certain foreign currencies, which adversely affected revenues reported in U.S. dollars and decreased the reported value of our assets in foreign countries.

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.

Risks related to government sales

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

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.

The purchasing and delivery schedules and priorities of the U.S. military, government contractors and foreign governments are often unpredictable and 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 as well as 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.

In addition, U.S. government contracts generally permit the government to terminate the contract 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. 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.

These factors periodically cause substantial fluctuations in sales of our TACNAV and FOG products and services. Fluctuating commercial sales of our inertial navigation products are also making it harder to predict our future revenues. For example, TACNAV product sales increased $4.1 million, or 107%, from the nine months ended September 30, 2020 to the nine months ended September 30, 2021, while sales of our FOG products increased $1.7 million, or 9%, from the nine months ended September 30, 2020 to the nine months ended September 30, 2021. Investors should not expect that these rates of growth will be repeated in future quarters; given the substantial fluctuations in quarterly sales, we could experience similarly substantial reductions in revenue.

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. 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. KVH products sold to these customers 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 $7.9 million of FOG products in August 2021, an order for $10.0 million of TACNAV products in July 2020, an order for $4.0 million of FOG products in October 2019 and orders for $6.7 million and $3.5 million of TACNAV products and services in 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.

Risks related to our industry

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 are very competitive, and we expect this competition to intensify. 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 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. 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 to compete with ours, which might motivate them to stop 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 and Raymarine (Intellian made). In the marine market for voice, fax, data, and Internet communications equipment, we compete primarily with Intellian and Cobham SATCOM. In the marine market for high-speed voice, fax, data, and Internet services, we compete primarily with Inmarsat, Marlink and Network Innovations. 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, Emcore and Fizoptica. Many of our competitors are well-established companies that have substantially greater financial, managerial, technical, marketing, personnel and other resources than we do, which may help them to compete more effectively against us.

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 or V30, 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.

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. Most of these relationships are non-exclusive, allowing these third parties to market competing products. 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.

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. For example, the global chip shortage and supply chain constraints resulting from the COVID-19 pandemic have impacted our ability to deliver products in a timely manner and has increased our cost of sales due to rising prices for materials. We may not be able to pass along any or all of these cost increases to our customers. These disruptions in our supply chain could continue or worsen, which could continue to delay delivery of our products and services and adversely affect our revenue and results of operations in future periods. Suppliers might change or discontinue key components, which could require us to modify our product designs. Regulations requiring government contractors to implement processes to avoid counterfeit parts may require us to find new sources of materials or components if a supplier cannot meet those requirements. In general, we do not have written long-term supply agreements with our suppliers but instead buy components through purchase orders, which expose us to potential price increases and termination of supply without notice or recourse. We generally do not carry significant inventories of product components, which could magnify the impact of the loss of a supplier. If we must use a new source of supply, we could face unexpected manufacturing difficulties and loss of product performance or 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 demand for our products on a timely basis and could result in the cancellation of customer orders. Further, adverse economic conditions, including conditions caused by the current COVID-19 pandemic, could result in financial difficulties or bankruptcy for any of our suppliers, which could adversely affect our business and results of operations.

We may source more materials and components from international suppliers, 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 and North 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.

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.

Risks related to intellectual property

We are devoting significant resources to research and development efforts that may be unsuccessful. 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 outperform our products or services, or are perceived as doing so, we may be unable to compete successfully in the markets affected by these changes.

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. Our research and development expenses decreased 1% from 2019 to 2020, and increased 15% from the nine months ended September 30, 2020 to the nine months ended September 30, 2021. The financial 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 that we cannot manufacture and sell profitably.

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. 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. 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.

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. 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.

<u>Risks related to indebtedness</u>

Our credit facility contains financial and restrictive covenants that we may not satisfy, and that, if not satisfied, could result in the acceleration of any outstanding indebtedness and limit our ability to borrow additional funds. The credit facility also imposes restrictions that may limit our ability to pursue business opportunities.

Although no amounts were outstanding under the agreements governing our secured credit facility as of September 30, 2021, 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 financial covenants pertaining to a maximum consolidated leverage ratio and a minimum trailing four-quarter consolidated adjusted EBITDA of $3.0 million and covenants requiring the mandatory prepayment of amounts outstanding under the revolver under specified circumstances. The agreements also subject us to various restrictions on our ability to engage in certain activities, such as raising capital or acquiring businesses. 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.

<u>Risks related to government regulation</u>

Our international operations complicate our business and require us to comply with multiple regulatory environments.

Historically, sales to customers outside the United States have accounted for a significant portion of our net sales. We derived 60%, 64% and 54% of our revenues in the nine months ended September 30, 2021 and the years ended December 31, 2020 and 2019, respectively, from sales to these foreign customers. We have foreign offices in Denmark, the United Kingdom, Singapore, Japan, Norway, Cyprus and the Philippines, as well as a subsidiary in Brazil that manages local sales. Nonetheless, 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 international operations 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 face 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; 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; 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, many of the countries where our customers use our products and services have licensing and regulatory requirements for the importation and use of satellite communications and reception equipment, including the use of such equipment in 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, making compliance 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, which, if implemented, could change the way we calculate our contribution to USF. In April 2012, the FCC released a proposal to consider reforms to the manner in which companies like us contribute to the federal USF program. In general, the proposal 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. The changes in the U.S. administration 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 personal, confidential and sensitive information regarding the content and manner of usage of our services by them, their employees and maritime crews. Federal, state and foreign governments have adopted and are proposing new and more stringent laws and regulations regarding the collection, use, storage and transfer of information, 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 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 liabilities, such as orders or consent decrees that require modifications to 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, which could reduce demand for some of our services, increase our costs and force us to change our business practices. For example, the 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.

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 the U.S. and the foreign jurisdictions in which we 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. Although we believe our tax estimates are reasonable, the ultimate tax outcome may differ materially from our estimates and may materially affect our income tax benefit or expense, net loss or income, and cash flows in the period in which such determination is made. As of September 30, 2021, 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. We have historically recorded valuation allowances 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.

Risks related to owning our common stock

The market price of our common stock may be volatile.

Our stock price has historically been volatile. During the period from January 1, 2018 to September 30, 2021, the trading price of our common stock ranged from $6.36 to $15.29. 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. 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.

ITEM 5. OTHER INFORMATION

On October 29, 2021, we amended the 2018 Credit Agreement to maintain the $15.0 million 2018 Revolver, extend the maturity date of the 2018 Revolver to October 28, 2022, eliminate the Consolidated Fixed Charge Coverage Ratio financial covenant, add a minimum trailing four-quarter Consolidated Adjusted EBITDA financial covenant of $3.0 million, modify the definition of Consolidated Adjusted EBITDA, modify the interest rate margins and certain lender fees, and transition the interest rate provisions based on LIBOR to the Bloomberg Short Term Bank Yield Index. In addition, Bank of America became the sole lender under the 2018 Credit Agreement. For more information regarding the 2018 Credit Agreement, see Part I, Item 2, "Management's Discussion and Analysis of Financial Condition and Results of Operations — Borrowing Arrangements —Term Note and Line of Credit."

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
4.2	Description of Capital Stock		8-K	August 4, 2020	4.1
10.1	Second Amendment to Amended and Restated Credit Agreement dated as of October 29, 2021 by and among KVH Industries, Inc., and Bank of America, N.A.	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 September 30, 2021, 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 Income (Loss) (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: November 4, 2021

KVH Industries, Inc.

By: /s/ ROGER A. KUEBEL

Roger A. Kuebel
(Duly Authorized Officer and Chief Financial Officer)

Exhibit 10.1

SECOND AMENDMENT TO AMENDED AND RESTATED CREDIT AGREEMENT

THIS SECOND AMENDMENT TO AMENDED AND RESTATED CREDIT AGREEMENT (this "Amendment"), dated as of October 29, 2021 (the "Second Amendment Effective Date"), is by and among **KVH INDUSTRIES, INC.**, a Delaware corporation (the "Borrower"), the Guarantors party hereto, the Lenders party hereto and **BANK OF AMERICA, N.A.**, as administrative agent (in such capacity, the "Administrative Agent"), Swingline Lender, and L/C Issuer. *Capitalized terms used herein and not otherwise defined herein shall have the meanings ascribed thereto in the Credit Agreement (as defined below).*

W I T N E S S E T H

WHEREAS, the Borrower, the Subsidiaries of the Borrower party from time to time party thereto (collectively, the "Guarantors"), certain banks and financial institutions from time to time party thereto (collectively, the "Lenders") and the Administrative Agent are parties to that certain Amended and Restated Credit Agreement dated as of October 30, 2018 (as amended, modified, extended, restated, replaced, or supplemented from time to time, the "Credit Agreement");

WHEREAS, the Loan Parties have requested that the Administrative Agent and the Lenders amend certain provisions of the Credit Agreement;

WHEREAS, the Loan Parties have determined in accordance with the Credit Agreement that the LIBOR Rate and all Eurodollar Rate Loans should be replaced with a successor rate and, in connection therewith, the Administrative Agent has determined that certain conforming changes are necessary or advisable; and

WHEREAS, the Administrative Agent and the Lenders are willing to make such amendments to the Credit Agreement, in accordance with and subject to the terms and conditions set forth herein.

NOW, THEREFORE, in consideration of the agreements hereinafter set forth, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

Article I
AMENDMENTS TO CREDIT AGREEMENT AND LOAN DOCUMENTS

I.1. New Definitions. The following definitions are hereby added to Section 1.1 of the Credit Agreement in the appropriate alphabetical order:

"Second Amendment" means that certain Second Amendment to Amended and Restated Credit Agreement dated as of October 29, 2021.

"Second Amendment Effective Date" shall have the meaning given in the Second Amendment.

I.2. Amendment to Definition of Applicable Margin. The definition of Applicable Margin set forth in Section 1.01 of the Credit Agreement is hereby amended and restated in its entirety to read as follows:

"Applicable Margin": means, for any day, the margin set forth below opposite the applicable Level then in effect (based on the Consolidated Leverage Ratio for the Measurement Period most recently then ended):

Level	Consolidated Leverage Ratio	Base Rate Loans	BSBY Rate Loans & BSBY Daily Floating Rate Loans	Revolver Unused Fee Percentage
I	<0.75x	0.625%	1.625%	0.20%
II	≥0.75; <1.25x	0.75%	1.75%	0.20%
III	≥1.25x; <1.75x	0.875%	1.875%	0.20%
IV	≥ 1.75x	1.00%	2.00%	0.20%

Any increase or decrease in the Applicable Margin resulting from a change in the Consolidated Leverage Ratio for a Measurement Period shall become effective as of the first Business Day immediately following the date a Compliance Certificate is delivered pursuant to Section 6.02(a) with respect to such Measurement Period; provided, however, that if a Compliance Certificate is not delivered when due in accordance with such Section, then, upon the request of the Required Lenders, Level IV shall apply, in each case as of the first Business Day after the date on which such Compliance Certificate was required to have been delivered and in each case shall remain in effect until the first Business Day following the date on which such Compliance Certificate is delivered. In addition, at all times while the Default Rate is in effect, the highest rate set forth in each column of the Applicable Margin shall apply.

Notwithstanding the foregoing, from and after the Second Amendment Effective Date, the Applicable Margin shall be set at Level I until the first Business Day immediately following the date a Compliance Certificate is delivered to the Administrative Agent pursuant to Section 6.02(a) for the quarter ending September 30, 2021.

I.3. Amendment to Definition of Consolidated Adjusted EBITDA. The definition of Consolidated Adjusted EBITDA set forth in Section 1.01 of the Credit Agreement is hereby amended and restated in its entirety to read as follows:

"Consolidated Adjusted EBITDA" means at any date of determination, an amount equal to the sum of (a) Consolidated EBITDA; plus (b) the amount of one-time, unusual or non-recurring cash expenses incurred by the Borrower and its Subsidiaries in respect of (i) restructuring charges, (ii) severance expenses, (iii) due diligence, legal, accounting, other professional advisor, investment banking and transaction expenses in connection with Permitted Acquisitions and (iv) other unusual or non-recurring items, not to exceed 20% of Consolidated EBITDA in the aggregate, plus (c) the EBITDA attributable to VSAT AgilePlan units shipped during such Measurement Period (or portion thereof), calculated on a pro forma basis (without duplication), not to exceed 10% of Consolidated EBITDA.

I.4. Amendment to Definition of Maturity Date. The definition of Maturity Date set forth in Section 1.01 of the Credit Agreement is hereby amended and restated in its entirety to read as follows:

"Maturity Date" Means October 28, 2022.

I.5. **Deletion of Definition.** The definition of "Consolidated Fixed Charge Coverage Ratio" contained in Section 1.01 of the Credit Agreement is hereby deleted.

I.6. **Amendment to Section 7.11(a).** Section 7.11(a) of the Credit Agreement is hereby amended and restated in its entirety to read as follows:

(a) [Intentionally Omitted]

I.7. **Amendment to Section 7.11(c).** Section 7.11(c) of the Credit Agreement is hereby amended and restated in its entirety to read as follows:

(c) Commencing with the Measurement Period ending September 30, 2021, permit Consolidated Adjusted EBITDA for any Measurement Period to be less than $3,000,000.

I.8. **Amendment to Schedule 1.01(b)**. Schedule 1.01(b) of the Credit Agreement is hereby deleted in its entirety and the new Schedule 1.01(b) attached hereto as **Exhibit A** is inserted in lieu thereof.

I.9. **Amendment to Fee Letter.** Notwithstanding anything to the contrary contained in any of the Loan Documents, from and after the Second Amendment Effective Date, Paragraph 3 of the Fee Letter is hereby deleted.

Article II
LIBOR TRANSITION AMENDMENTS

II.1. Notwithstanding any provision of the Credit Agreement or any other Loan Document to the contrary, the parties hereto hereby agree that the Administrative Agent's standard transition from LIBOR terms set forth on **Appendix A** hereto shall apply to all Loans under the Credit Agreement.

Article III
CONDITIONS TO EFFECTIVENESS

III.1. **Closing Conditions.** This Amendment shall become effective as of Second Amendment Effective Date upon satisfaction of the following conditions (in each case, in form and substance reasonably acceptable to the Administrative Agent) on or prior to the Second Amendment Effective Date:

(a) Executed Amendment. The Administrative Agent shall have received a copy of this Amendment duly executed by each of the Loan Parties, the Lenders and the Administrative Agent.

(b) Miscellaneous. All other documents and legal matters in connection with the transactions contemplated by this Amendment shall be reasonably satisfactory in form and substance to the Administrative Agent and its counsel.

Article IV
POST-CLOSING MATTERS

IV.1. **<u>Post-Closing Conditions</u>**. On or before the date that is ten (10) days after the Second Amendment Effective Date, the Borrower shall satisfy the following conditions:

(a) Fees and Expenses. The Administrative Agent shall have received from the Borrower such fees and expenses that are payable in connection with the consummation of the transactions contemplated hereby, including, without limitation, reimbursement of all outstanding fees and expenses previously incurred and all fees and expenses incurred in connection with this Amendment.

(b) Legal Opinion. The Administrative Agent shall have received an opinion or opinions of counsel for the Loan Parties, dated as of the Second Amendment Effective Date and addressed to the Administrative Agent and the Lenders which shall be in form and substance satisfactory to the Administrative Agent.

(c) Evidence of Authority. The Administrative Agent shall have received evidence that the execution, delivery, and performance by the Borrower of this Amendment and any instrument or agreement required under this amendment have been duly authorized.

Article V
MISCELLANEOUS

V.1. **<u>Amended Terms</u>.** On and after the Second Amendment Effective Date, all references to the Credit Agreement in each of the Loan Documents shall hereafter mean the Credit Agreement as amended by this Amendment. Except as specifically amended hereby or otherwise agreed, the Credit Agreement is hereby ratified and confirmed and shall remain in full force and effect according to its terms.

V.2. **<u>Representations and Warranties of Loan Parties</u>.** Each of the Loan Parties represents and warrants as follows:

(a) It has taken all necessary action to authorize the execution, delivery and performance of this Amendment.

(b) This Amendment has been duly executed and delivered by such Person and constitutes such Person’s legal, valid and binding obligation, enforceable in accordance with its terms, except as such enforceability may be subject to (i) bankruptcy, insolvency, reorganization, fraudulent conveyance or transfer, moratorium or similar laws affecting creditors’ rights generally and (ii) general principles of equity (regardless of whether such enforceability is considered in a proceeding at law or in equity).

(c) No consent, approval, authorization or order of, or filing, registration or qualification with, any court or governmental authority or third party is required in connection with the execution, delivery or performance by such Person of this Amendment.

(d) The representations and warranties set forth in Article V of the Credit Agreement are true and correct as of the date hereof (except for those which expressly relate to an earlier date).

(e) After giving effect to this Amendment, no event has occurred and is continuing which constitutes a Default or an Event of Default.

(f) The Collateral Documents continue to create a valid security interest in, and Lien upon, the Collateral, in favor of the Administrative Agent, for the benefit of the Lenders, which security interests and Liens are perfected in accordance with the terms of the Collateral Documents and prior to all Liens other than Permitted Liens.

(g) The amounts owed under the Revolving Note, the Credit Agreement, and the other Loan Documents are not reduced or modified by this Amendment and are not subject to any offsets, defenses or counterclaims.

V.3. Reaffirmation of Obligations. Each Loan Party hereby ratifies the Credit Agreement and acknowledges and reaffirms (a) that it is bound by all terms of the Credit Agreement applicable to it and (b) that it is responsible for the observance and full performance of its respective Obligations.

V.4. Loan Document. This Amendment shall constitute a Loan Document under the terms of the Credit Agreement.

V.5. Expenses. The Borrower agrees to pay all reasonable costs and expenses of the Administrative Agent in connection with the preparation, execution and delivery of this Amendment, including without limitation the reasonable fees and expenses of the Administrative Agent's legal counsel.

V.6. Further Assurances. The Loan Parties agree to promptly take such action, upon the request of the Administrative Agent, as is necessary to carry out the intent of this Amendment.

V.7. Entirety. This Amendment and the other Loan Documents embody the entire agreement among the parties hereto and supersede all prior agreements and understandings, oral or written, if any, relating to the subject matter hereof.

V.8. Counterparts; Telecopy. This Amendment may be executed in any number of counterparts, each of which when so executed and delivered shall be an original, but all of which shall constitute one and the same instrument. Delivery of an executed counterpart of a signature page of this Amendment or any other document required to be delivered hereunder, by fax transmission or e-mail transmission (e.g. "pdf" or "tif") shall be effective as delivery of a manually executed counterpart of this Agreement. Without limiting the foregoing, upon the request of any party, such fax transmission or e-mail transmission shall be promptly followed by such manually executed counterpart.

V.9. No Actions, Claims, Etc. As of the date hereof, each of the Loan Parties hereby acknowledges and confirms that it has no knowledge of any actions, causes of action, claims, demands, damages and liabilities of whatever kind or nature, in law or in equity, against the Administrative Agent, the Lenders, or the Administrative Agent's or the Lenders' respective officers, employees, representatives, agents, counsel or directors arising from any action by such Persons, or failure of such Persons to act under the Credit Agreement on or prior to the date hereof.

V.10. GOVERNING LAW. THIS AMENDMENT SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.

V.11. Successors and Assigns. This Amendment shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

V.12. Consent to Jurisdiction; Service of Process; Waiver of Jury Trial. The jurisdiction, service of process and waiver of jury trial provisions set forth in Sections 11.14 and 11.15 of the Credit Agreement are hereby incorporated by reference, *mutatis mutandis*.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF the parties hereto have caused this Amendment to be duly executed on the date first above written.

BORROWER: **KVH INDUSTRIES, INC.**, a Delaware corporation.

By: /s/ JENNIFER BAKER
Name: Jennifer Baker
Title: Chief Accounting Officer

[*Signature page to Second Amendment to Amended and Restated Credit Agreement*]

ADMINISTRATIVE AGENT: BANK OF AMERICA, N.A., in its capacity as Administrative Agent

By: /s/ ERIK TRUETTE
Name: Erik Truette
Title: Vice President

[*Signature page to Second Amendment to Amended and Restated Credit Agreement*]

LENDERS: BANK OF AMERICA, N.A., in its capacity as Lender, L/C Issuer, and Swingline Lender

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

[*Signature page to Second Amendment to Amended and Restated Credit Agreement*]

Exhibit A

SCHEDULE 1.01(B)

Initial Commitments and Applicable Percentages

Lender	**Revolving Commitment**	**Applicable Percentage (Revolving Loans)**
Bank of America, N.A.	$15,000,000.00	100.000000000%
Total:	**$15,000,000.00**	**100%**

[*Signature page to Second Amendment to Amended and Restated Credit Agreement*]

Appendix A

TERMS APPLICABLE TO BSBY RATE LOANS

1. Defined Terms. The following terms shall have the meanings set forth below:

"Administrative Agent's Office" means, with respect to Dollars, the Administrative Agent's address and, as appropriate, account specified in the Credit Agreement with respect to Dollars, or such other address or account with respect to Dollars as the Administrative Agent may from time to time notify the Borrower and the Lenders.

"Applicable Rate" means the Applicable Rate, Applicable Margin or any similar or analogous definition in the Credit Agreement.

"Base Rate" means the Base Rate, Alternative Base Rate, ABR or any similar or analogous definition in the Credit Agreement.

"Base Rate Loans" means a Loan that bears interest at a rate based on the Base Rate.

"Bloomberg" means Bloomberg Index Services Limited.

"Borrowing" means a Committed Borrowing, Borrowing, or any similar or analogous definition in the Credit Agreement.

"BSBY" means the Bloomberg Short-Term Bank Yield Index rate.

"BSBY Daily Floating Rate" means, for any day, a fluctuating rate of interest per annum equal to the BSBY Screen Rate two (2) Business Days prior to such day for a term of one (1) month; provided, that, if the rate is not published on such determination date then BSBY Daily Floating Rate means the BSBY Screen Rate on the first Business Day immediately prior thereto; provided, further, if the BSBY Daily Floating Rate determined in accordance with the foregoing provisions of this definition would otherwise be less than 0.50%, such rate shall be deemed 0.50% for purposes of this Agreement.

"BSBY Daily Floating Rate Loan" means a Loan that bears interest at a rate based on the BSBY Daily Floating Rate.

"BSBY Rate" means:

(a) for any Interest Period with respect to a BSBY Rate Loan, the rate per annum equal to the BSBY Screen Rate two Business Days prior to the commencement of such Interest Period with a term equivalent to such Interest Period; provided that if the rate is not published on such determination date then BSBY Rate means the BSBY Screen Rate on the first Business Day immediately prior thereto; and

(b) for any interest calculation with respect to a Base Rate Loan on any date, the rate per annum equal to the BSBY Screen Rate with a term of one month commencing that day;

provided that if the BSBY Rate determined in accordance with the foregoing provisions of this definition would otherwise be less than 0.50%, the BSBY Rate shall be deemed 0.50% for purposes of this Agreement.

"BSBY Rate Loan" means a Loan that bears interest at a rate based on clause (a) of the definition of BSBY Rate. BSBY Rate Loans shall be denominated in Dollars.

"BSBY Screen Rate" means the Bloomberg Short-Term Bank Yield Index rate administered by Bloomberg and published on the applicable Reuters screen page (or such other commercially available source providing such quotations as may be designated by the Administrative Agent from time to time).

1 "Business Day" means any day other than a Saturday, Sunday or other day on which commercial banks are authorized to close under the laws of, or are in fact closed in, the state where the Administrative Agent's Office is located; provided that if such day relates to any interest rate settings as to a BSBY Rate Loan or any BSBY Daily Floating Rate Loan, means any day other than a Saturday, Sunday or other day on which commercial banks are authorized to close under the laws of, or are in fact closed in New York City.

"Committed Loan Notice" means a Committed Loan Notice, Loan Notice, Borrowing Notice, Continuation/Conversion Notice, or any similar or analogous definition in the Credit Agreement, and such term shall be deemed to include the Committed Loan Notice attached hereto as Exhibit A.

"Conforming Changes" means, with respect to the use, administration of or any conventions associated with BSBY or any proposed Successor Rate for BSBY, any conforming changes to the definitions of "Base Rate", "BSBY", "Interest Period", timing and frequency of determining rates and making payments of interest and other technical, administrative or operational matters (including, for the avoidance of doubt, the definition of "Business Day", timing of borrowing requests or prepayment, conversion or continuation notices and length of lookback periods) as may be appropriate, in the discretion of the Administrative Agent, to reflect the adoption and implementation of such applicable rate(s) and to permit the administration thereof by the Administrative Agent in a manner substantially consistent with market practice for Dollars (or, if the Administrative Agent determines that adoption of any portion of such market practice is not administratively feasible or that no market practice for the administration of such rate for Dollars exists, in such other manner of administration as the Administrative Agent determines is reasonably necessary in connection with the administration of this Agreement and any other Loan Document).

"Daily Simple SOFR" with respect to any applicable determination date means the secured overnight financing rate ("SOFR") published on such date by the Federal Reserve Bank of New York, as the administrator of the benchmark (or a successor administrator) on the Federal Reserve Bank of New York's website (or any successor source).

"Dollar" and "$" mean lawful money of the United States.

"Eurocurrency Rate" means Eurocurrency Rate, LIBOR, Adjusted LIBOR Rate, LIBOR Rate or any similar or analogous definition in the Credit Agreement.

"Eurocurrency Rate Loans" means a Loan that bears interest at a rate based on the Eurocurrency Rate.

"Interest Payment Date" means, (a) as to any BSBY Rate Loan, the last day of each Interest Period applicable to such Loan and the applicable maturity date set forth in the Credit Agreement; provided, however, that if any Interest Period for a BSBY Rate Loan exceeds three months, the respective dates that fall every three months after the beginning of such Interest Period shall also be Interest Payment Dates and (b) as to any BSBY Daily Floating Rate Loan (including a Swingline Loan if such Swingline Loan bears interest at the BSBY Daily Floating Rate), the first Business Day of each month and the applicable maturity date set forth in the Credit Agreement.

"Interest Period" means as to each BSBY Rate Loan, the period commencing on the date such BSBY Rate Loan or is disbursed or converted to or continued as a BSBY Rate Loan and ending on the date one, three or six months thereafter (in each case, subject to availability), as selected by the Borrower in its Committed Loan Notice; provided that:

(a) any Interest Period that would otherwise end on a day that is not a Business Day shall be extended to the next succeeding Business Day unless, in the case of a BSBY Rate Loan, such Business Day falls in another calendar month, in which case such Interest Period shall end on the next preceding Business Day;

(b) any Interest Period pertaining to a BSBY Rate Loan that begins on the last Business Day of a calendar month (or on a day for which there is no numerically corresponding day in the calendar month at the end of such Interest Period) shall end on the last Business Day of the calendar month at the end of such Interest Period; and

(c) no Interest Period shall extend beyond the applicable maturity date set forth in the Credit Agreement.

"LIBOR Daily Floating Rate" means the LIBOR Daily Floating Rate, Daily LIBOR Floating Rate or any similar or analogous definition in the Credit Agreement.

"LIBOR Daily Floating Rate Loan" means the LIBOR Daily Floating Rate Loan, Daily LIBOR Floating Rate Loan or any similar or analogous definition in the Credit Agreement.

"Relevant Governmental Body" means the Board of Governors of the Federal Reserve System or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Board of Governors of the Federal Reserve System or the Federal Reserve Bank of New York, or any successor thereto.

"Required Lenders" means the Required Lenders, Requisite Lenders, Majority Lenders or any similar or analogous definition in the Credit Agreement, subject to Section 2(g) of this Appendix A.

"Scheduled Unavailability Date" has the meaning set forth in Section 2(g) of this Appendix A.

"SOFR Adjustment" with respect to Daily Simple SOFR means 0.11448% (11.448 basis points); and with respect to Term SOFR means 0.11448% (11.448 basis points) for an interest period of one-month's duration, 0.26161% (26.161 basis points;) for an interest period of three-month's duration, 0.42826% (42.826 basis points) for an interest period of six-months' duration, and 0.71513% (71.513 basis points) for an interest period of twelve–months' duration.

"Successor Rate" has the meaning set forth in Section 2(g).

“Swingline Loan” means Swing Line Loan, Swingline Loan or any similar or analogous definition in the Credit Agreement.

“Term SOFR” means, for the applicable corresponding Interest Period of BSBY (or if any Interest Period does not correspond to an interest period applicable to SOFR, the closest corresponding interest period of SOFR, and if such interest period of SOFR corresponds equally to two Interest Periods of BSBY, the corresponding interest period of the shorter duration shall be applied) the forward-looking term rate based on SOFR that has been selected or recommended by the Relevant Governmental Body.

“Type” means, with respect to a Loan, its character as a Base Rate Loan, a BSBY Rate Loan, or a BSBY Daily Floating Rate Loan.

2. Terms Applicable to BSBY Rate Loans and BSBY Daily Floating Rate Loans. From and after the Second Amendment Effective Date, the parties hereto agree as follows:

(a) Impacted Currencies. (i) Dollars shall not be considered a currency for which there is a published LIBOR rate, (ii) any request for a new Eurocurrency Rate Loan denominated in Dollars, or to continue an existing Eurocurrency Rate Loan denominated in Dollars, shall be deemed to be a request for a new Loan bearing interest at the BSBY Rate, and (iii) any request for a new LIBOR Daily Floating Rate Loan shall be deemed to be a request for a new Loan bearing interest at the BSBY Daily Floating Rate; provided, that, to the extent any Loan bearing interest at the Eurocurrency Rate or the LIBOR Daily Floating Rate is outstanding on the Second Amendment Effective Date, such Loan shall continue to bear interest at the Eurocurrency Rate or the LIBOR Daily Floating Rate, as applicable, until the end of the current Interest Period or payment period applicable to such Loan unless, in the case of a LIBOR Daily Floating Rate Loan, the LIBOR Daily Floating Rate is no longer representative or being made available, in which case such Loan shall bear interest at the BSBY Daily Floating Rate immediately upon the effectiveness of this Agreement.

(b) References to Eurocurrency Rate, Eurocurrency Rate Loans, LIBOR Daily Floating Rate and LIBOR Daily Floating Rate Loans in the Credit Agreement and Loan Documents.

(i) References to the Eurocurrency Rate, Eurocurrency Rate Loans, LIBOR Daily Floating Rate and LIBOR Daily Floating Rate Loans in provisions of the Credit Agreement and the other Loan Documents that are not specifically addressed herein (other than the definitions of Eurocurrency Rate, Eurocurrency Rate Loan, LIBOR Daily Floating Rate and LIBOR Daily Floating Rate Loan) shall be deemed to include the BSBY Rate, BSBY Rate Loans, the BSBY Daily Floating Rate and BSBY Daily Floating Rate Loans, as applicable. In addition, references to the Eurocurrency Rate or the LIBOR Daily Floating Rate, as applicable, in the definition of Base Rate in the Credit Agreement shall be deemed to refer to the BSBY Rate or the BSBY Daily Floating Rate, as applicable.

(ii) For purposes of any requirement for the Borrower to compensate Lenders for losses in the Credit Agreement resulting from any continuation, conversion, payment or prepayment of any Loan on a day other than the last day of any Interest Period (as defined in the Credit Agreement), references to the Interest Period (as defined in the Credit Agreement) shall be deemed to include any relevant interest payment date or payment period for a BSBY Rate Loan.

(c) Interest Rates. The Administrative Agent does not warrant, nor accept responsibility, nor shall the Administrative Agent have any liability with respect to the administration, submission or any other matter related to the rates in the definition of "BSBY Rate", "BSBY Daily Floating Rate" or with respect to any rate (including, for the avoidance of doubt, the selection of such rate and any related spread or other adjustment) that is an alternative or replacement for or successor to such rate or the effect of any of the foregoing, or of any Conforming Changes.

(d) Borrowings, Conversions, Continuations and Prepayments of BSBY Loans and BSBY Daily Floating Rate Loans. In addition to any other borrowing or prepayment requirements set forth in the Credit Agreement:

(i) BSBY Rate Loans and BSBY Daily Floating Rate Loans. Each Borrowing, each conversion of Loans from one Type to the other, and each continuation of BSBY Rate Loans shall be made upon the Borrower's irrevocable notice to the Administrative Agent, which may be given by (A) telephone or (B) a Committed Loan Notice; provided that any telephonic notice must be confirmed immediately by delivery to the Administrative Agent of a Committed Loan Notice. Each such Committed Loan Notice must be received by the Administrative Agent not later than 11:00 a.m. (Eastern time) (1) two Business Days prior to the requested date of any Borrowing of, conversion to or continuation of BSBY Rate Loans or of any conversion of BSBY Rate Loans to Base Rate Loans or BSBY Daily Floating Rate Loans and (ii) on the requested date of any Borrowing of BSBY Daily Floating Rate Loans. Each Borrowing of, conversion to or continuation of BSBY Rate Loans or BSBY Daily Floating Rate Loans shall be in a principal amount of $500,000 or a whole multiple of $100,000 in excess thereof. Each Committed Loan Notice shall specify (i) whether the Borrower is requesting a Borrowing, a conversion of Loans from one Type to the other, or a continuation of BSBY Rate Loans, (ii) the requested date of the Borrowing, conversion or continuation, as the case may be (which shall be a Business Day), (iii) the principal amount of Loans to be borrowed, converted or continued, (iv) the Type of Loans to be borrowed or to which existing Loans are to be converted, and (v) if applicable, the duration of the Interest Period with respect thereto. If the Borrower fails to specify a Type of Loan in a Committed Loan Notice or if the Borrower fails to give a timely notice requesting a conversion or continuation, then the applicable Loans shall be made as, or converted to, Base Rate Loans. Any such automatic conversion to Base Rate Loans shall be effective as of the last day of the Interest Period then in effect with respect to the applicable BSBY Rate Loans. If the Borrower requests a Borrowing of, conversion to, or continuation of BSBY Rate Loans in any such Committed Loan Notice, but fails to specify an Interest Period, it will be deemed to have specified an Interest Period of one month.

(ii) Conforming Changes. With respect to BSBY the Administrative Agent will have the right to make Conforming Changes from time to time and, notwithstanding anything to the contrary herein, in the Credit Agreement or in any other Loan Document, any amendments implementing such Conforming Changes will become effective without any further action or consent of any other party to this Agreement, the Credit Agreement or any other Loan Document; provided, that, with respect to any such amendment effected, the Administrative Agent shall post each such amendment implementing such Conforming Changes to the Borrower and the Lenders reasonably promptly after such amendment becomes effective.

(iii) Committed Loan Notice. For purposes of a Borrowing of BSBY Rate Loans or BSBY Daily Floating Rate Loans, or a continuation of a BSBY Rate Loan, the Borrower shall use the Committed Loan Notice attached hereto as Exhibit A.

(iv) Voluntary Prepayments of BSBY Rate Loans. The Borrower may, upon notice to the Administrative Agent pursuant to delivery to the Administrative Agent of a Notice of Loan Prepayment, at any time or from time to time voluntarily prepay the BSBY Rate Loans in whole or in part without premium or penalty (except as otherwise specified in the Credit Agreement); provided that such notice must be received by the Administrative Agent not later than 11:00 a.m. (Eastern time) two Business Days prior to any date of prepayment of BSBY Rate Loans.

(e) Interest.

(i) Subject to the provisions of the Credit Agreement with respect to default interest, (A) each BSBY Rate Loan shall bear interest on the outstanding principal amount thereof from the applicable borrowing date at a rate per annum equal to the sum of the BSBY Rate plus the Applicable Rate and (B) each BSBY Daily Floating Rate Loan shall bear interest on the outstanding principal amount thereof from the applicable borrowing date at a rate per annum equal to the sum of the BSBY Daily Floating Rate plus the Applicable Rate.

(ii) Interest on each BSBY Rate Loan and each BSBY Daily Floating Rate Loan shall be due and payable in arrears on each Interest Payment Date applicable thereto and at such other times as may be specified the Credit Agreement. Interest hereunder shall be due and payable in accordance with the terms hereof before and after judgment, and before and after the commencement of any proceeding under any debtor relief law.

(f) Computations. All computations of interest for Base Rate Loans (including Base Rate Loans determined by reference to the BSBY Rate or the BSBY Daily Floating Rate, as applicable) shall be made on the basis of a year of 365 or 366 days, as the case may be, and actual days elapsed. All other computations of fees and interest with respect to BSBY Rate Loans and BSBY Daily Floating Rate Loans shall be made on the basis of a 360-day year and actual days elapsed (which results in more fees or interest, as applicable, being paid than if computed on the basis of a 365-day year). Interest shall accrue on each Loan for the day on which the Loan is made, and shall not accrue on a Loan, or any portion thereof, for the day on which the Loan or such portion is paid, provided that any Loan that is repaid on the same day on which it is made shall, subject to the provisions in the Credit Agreement addressing payments generally, bear interest for one day. Each determination by the Administrative Agent of an interest rate or fee hereunder shall be conclusive and binding for all purposes, absent manifest error.

(g) Inability to Determine Rates; Successor Rates.

(i) Defined Terms. For purposes of this Section 2(g), those Lenders that either have not made, or do not have an obligation under the Credit Agreement to make, the relevant Loans in Dollars shall be excluded from any determination of Required Lenders.

(ii) Inability to Determine Rate. If in connection with any request for a BSBY Rate Loan or a BSBY Daily Floating Rate Loan, as applicable or a conversion to or continuation thereof, as applicable, (A) the Administrative Agent determines (which determination shall be conclusive absent manifest error) that (x) no Successor Rate has been determined in accordance with Section 2(g)(iii) and the circumstances under clause (x) of Section 2(g)(iii) or the Scheduled Unavailability Date has occurred (as applicable) or (y) adequate and reasonable means do not otherwise exist for determining BSBY for any requested Interest Period with respect to a proposed BSBY Rate Loan or in connection with an existing or proposed Base Rate Loan or BSBY Daily Floating Rate Loan, as applicable, or (B) the Administrative Agent or the Required Lenders determine that for any reason that the BSBY Rate for any requested Interest Period with respect to a proposed BSBY Rate Loan or a BSBY Daily Floating Rate Loan does not adequately and fairly reflect the cost to such Lenders of funding such BSBY Rate Loan or BSBY Daily Floating Rate Loan, as applicable, the Administrative Agent will promptly so notify the Borrower and each Lender. Thereafter, (1) the obligation of the Lenders to make or maintain BSBY Rate Loans or BSBY Daily Floating Rate Loans, as applicable, or to convert Base Rate Loans to BSBY Rate Loans, shall be suspended (to the extent of the affected BSBY Rate Loans, BSBY Daily Floating Rate Loans, or Interest Periods), and (2) in the event of a determination described in the preceding sentence with respect to the BSBY component of the Base Rate, the utilization of the BSBY Rate component in determining the Base Rate shall be suspended, in each case until the Administrative Agent (or, in the case of a determination by the Required Lenders described in clause (B) of this Section, until the Administrative Agent upon instruction of the Required Lenders) revokes such notice. Upon receipt of such notice, (1) the Borrower may revoke any pending request for a Borrowing of, or conversion to, or continuation of BSBY Rate Loans or BSBY Daily Floating Rate Loans, as applicable (to the extent of the affected BSBY Rate Loans, BSBY Daily Floating Rate Loans, or Interest Periods) or, failing that, will be deemed to have converted such request into a request for a Borrowing of Base Rate Loans in the amount specified therein and (2) any outstanding BSBY Rate Loans and BSBY Daily Floating Rate Loans shall be deemed to have been converted to Base Rate Loans immediately at the end of their respective applicable Interest Period or payment period, as applicable.

(iii) Successor Rates. Notwithstanding anything to the contrary in this Agreement, the Credit Agreement or any other Loan Documents, if the Administrative Agent determines (which determination shall be conclusive absent manifest error), or the Borrower or Required Lenders notify the Administrative Agent (with, in the case of the Required Lenders, a copy to the Borrower) that the Borrower or Required Lenders (as applicable) have determined, that:

(x) adequate and reasonable means do not exist for ascertaining one month, three month and six month interest periods of BSBY, including, without limitation, because the BSBY Screen Rate is not available or published on a current basis and such circumstances are unlikely to be temporary; or

(y) Bloomberg or any successor administrator of the BSBY Screen Rate or a governmental authority having jurisdiction over the Administrative Agent or Bloomberg or such administrator has made a public statement identifying a specific date after which one month, three month and six month interest periods of BSBY or the BSBY Screen Rate shall or will no longer be representative or made available, or used for determining the interest rate of loans, or shall or will otherwise cease, or that such interest periods or BSBY Screen Rate have failed to comply with the International Organization of Securities Commission (IOSCO) Principles for Financial Benchmarks, provided, that, at the time of such statement, there is no successor administrator that is satisfactory to the Administrative Agent, that will continue to provide such representative interest periods of BSBY after such specific date (the latest date on which one month, three month and six month interest periods of BSBY or the BSBY Screen Rate are no longer representative or available permanently or indefinitely, the "Scheduled Unavailability Date");

then, on a date and time determined by the Administrative Agent (any such date, the "BSBY Replacement Date"), which date shall be at the end of an Interest Period or on the relevant interest payment date, as applicable, for interest calculated and, solely with respect to clause (ii) above, no later than the Scheduled Unavailability Date, BSBY will be replaced hereunder and under any Loan Document with, subject to the proviso below, the first available alternative set forth in the order below for any payment period for interest calculated that can be determined by the Administrative Agent, in each case, without any amendment to, or further action or consent of any other party to, this Agreement or any other Loan Document (the "Successor Rate"):

(1) Term SOFR *plus* the SOFR Adjustment; and

(2) Daily Simple SOFR *plus* the SOFR Adjustment;

provided that, if initially BSBY is replaced with the rate contained in clause (2) above (Daily Simple SOFR plus the SOFR Adjustment) and subsequent to such replacement, the Administrative Agent determines that Term SOFR has become available and is administratively feasible for the Administrative Agent in its sole discretion, and the Administrative Agent notifies the Borrower and each Lender of such availability, then from and after the beginning of the Interest Period, relevant interest payment date or payment period for interest calculated, in each case, commencing no less than thirty (30) days after the date of such notice, the Successor Rate shall be Term SOFR *plus* the SOFR Adjustment.

If the Successor Rate is Daily Simple SOFR plus the SOFR Adjustment, all interest payments will be payable on a monthly basis.

Notwithstanding anything to the contrary herein or in the Credit Agreement, (A) if the Administrative Agent determines that neither of the alternatives set forth in clauses (1) and (2) above is available on or prior to the BSBY Replacement Date or (ii) if the events or circumstances of the type described in Section 2(g)(iii)(x) or 2(g)(iii)(y) of this Appendix A have occurred with respect to the Successor Rate then in effect, then in each case, the Administrative Agent and the Borrower may amend this Agreement solely for the purpose of replacing BSBY or any then current Successor Rate in accordance with this Section 2(g)(iii) at the end of any Interest Period, relevant interest payment date or payment period for interest calculated, as applicable, with another alternate benchmark rate giving due consideration to any evolving or then existing convention for similar U.S. dollar denominated credit facilities syndicated and agented in the United States for such alternative benchmarks and, in each case, including any mathematical or other adjustments to such benchmark giving due consideration to any evolving or then existing convention for similar U.S. dollar denominated credit facilities syndicated and agented in the United States for such benchmarks, which adjustment or method for calculating such adjustment shall be published on an information service as selected by the Administrative Agent from time to time in its reasonable discretion and may be periodically updated. For the avoidance of doubt, any such proposed rate and adjustments shall constitute a Successor Rate. Any such amendment shall become effective at 5:00 p.m. on the fifth Business Day after the Administrative Agent shall have posted such proposed amendment to all Lenders and the Borrower unless, prior to such time, Lenders comprising the Required Lenders have delivered to the Administrative Agent written notice that such Required Lenders object to such amendment.

The Administrative Agent will promptly (in one or more notices) notify the Borrower and each Lender of the implementation of any Successor Rate.

Any Successor Rate shall be applied in a manner consistent with market practice; provided that to the extent such market practice is not administratively feasible for the Administrative Agent, such Successor Rate shall be applied in a manner as otherwise reasonably determined by the Administrative Agent.

Notwithstanding anything else herein or in the Credit Agreement, if at any time any Successor Rate as so determined would otherwise be less than 0.50%, the Successor Rate will be deemed to be 0.50% for the purposes of this Agreement and the other Loan Documents.

In connection with the implementation of a Successor Rate, the Administrative Agent will have the right to make Conforming Changes from time to time and, notwithstanding anything to the contrary herein or in any other Loan Document, any amendments implementing such Conforming Changes will become effective without any further action or consent of any other party to this Agreement; provided that, with respect to any such amendment effected, the Administrative Agent shall post each such amendment implementing such Conforming Changes to the Borrower and the Lenders reasonably promptly after such amendment becomes effective.

Exhibit A

FORM OF COMMITTED LOAN NOTICE
(BSBY Rate Loans)

Date: ___________, _____[1]

To: Bank of America, N.A., as Administrative Agent

Ladies and Gentlemen:

Reference is made to that certain Amended and Restated Credit Agreement, dated as of October 30, 2018 (as amended, restated, extended, supplemented or otherwise modified in writing from time to time, the "Credit Agreement;" the terms defined therein being used herein as therein defined), among KVH Industries, Inc., a Delaware corporation (the "Borrower"), the Guarantors party thereto, the Lenders from time to time party thereto, and Bank of America, N.A., as Administrative Agent.

The undersigned hereby requests (select one)[2]:

Revolving Facility

Indicate: Borrowing, Conversion or Continuation	**Indicate: Borrower Name**	**Indicate: Requested Amount**	**Indicate: Currency**	**Indicate: BSBY Rate Loans or BSBY Daily Floating Rate Loans**	**For BSBY Rate Loans Indicate:** **Interest Period (e.g., 1, 3 or 6 month interest period)**

The Borrowing, if any, requested herein complies with the requirements set forth in the Credit Agreement.

KVH INDUSTRIES, INC.

By:__
Name: [Type Signatory Name]

[1] Note to Borrower. All requests submitted under a single Committed Loan Notice must be effective on the same date. If multiple effective dates are needed, multiple Committed Loan Notices will need to be prepared and signed.
[2] Note to Borrower. For multiple borrowings, conversions and/or continuations for a particular facility, fill out a new row for each borrowing/conversion and/or continuation.

Title: [Type Signatory Title]

Exhibit 31.1

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

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

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

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

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

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

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

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

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

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

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

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

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

Date: November 4, 2021

/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, Roger A. Kuebel, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: November 4, 2021

/s/ Roger A. Kuebel

Roger A. Kuebel

Chief Financial Officer

Exhibit 32.1

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

In connection with the Quarterly Report on Form 10-Q of KVH Industries, Inc. (the “Company”) for the quarter ended September 30, 2021, 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/ Roger A. Kuebel
	Martin A. Kits van Heyningen		Roger A. Kuebel
	President, Chief Executive Officer and Chairman of the Board		Chief Financial Officer
Date:	November 4, 2021	Date:	November 4, 2021