KVH INDUSTRIES INC \DE\
Form 10-K
March 09, 2017
Table of Contents

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K
(Mark One)
x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2016
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	Name of Each Exchange on Which Registered
Common Stock, $0.01 par value per share	The NASDAQ Stock Market LLC (NASDAQ Global Market)

Securities registered pursuant to Section 12(g) of the Act: None
Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ¨ No x
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ¨ No x
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 x No ¨
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ¨
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer o	Accelerated filer x
Non-accelerated filer o	Smaller reporting company o

(Do not check if a smaller reporting company)

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

As of June 30, 2016, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was $115,050,774 based on the closing sale price of $7.70 per share as reported on the NASDAQ Global Select Market. Shares of common stock held by

Table of Contents

executive officers and directors of the registrant and their affiliates have been excluded from this calculation because such persons may be deemed affiliates.

As of March 8, 2017, the registrant had 16,902,494 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement relating to its 2017 Annual Meeting of Stockholders are incorporated herein by reference in Part III.

Table of Contents

INDEX TO FORM 10-K

		Page
	PART I	
Item 1.	Business	3
Item 1A.	Risk Factors	15
Item 1B.	Unresolved Staff Comments	30
Item 2.	Properties	31
Item 3.	Legal Proceedings	31
Item 4.	Mine Safety Disclosures	31
	PART II	
Item 5.	Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	32
Item 6.	Selected Financial Data	33
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	35
Item 7A.	Quantitative and Qualitative Disclosure About Market Risk	52
Item 8.	Financial Statements and Supplementary Data	53
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	53
Item 9A.	Controls and Procedures	54
Item 9B.	Other Information	55
	PART III	
Item 10.	Directors, Executive Officers and Corporate Governance	56
Item 11.	Executive Compensation	56
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	56
Item 13.	Certain Relationships and Related Transactions and Director Independence	56
Item 14.	Principal Accountant Fees and Services	56
	PART IV	
Item 15.	Exhibits and Financial Statement Schedules	57
Item 16.	Form 10-K Summary	
Signatures		60

Table of Contents

PART I

ITEM 1. Business

Cautionary Statement Regarding Forward-Looking Information

In addition to historical facts, this annual report contains forward-looking statements. Forward-looking statements are merely our current predictions of future events. These statements are inherently uncertain, and actual events could differ materially from our predictions. Important factors that could cause actual events to vary from our predictions include those discussed in this annual report under the headings “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and “Item 1A. Risk Factors.” We assume no obligation to update our forward-looking statements to reflect new information or developments. We urge readers to review carefully the risk factors described in this annual report and in the other documents that we file with the Securities and Exchange Commission. You can read these documents at www.sec.gov.

Additional Information Available

Our principal Internet address is www.kvh.com. Our website provides a hyperlink to a third-party website through which our annual, quarterly, and current reports, as well as amendments to those reports, are available free of charge. We believe these reports are made available as soon as reasonably practicable after we electronically file them with, or furnish them to, the SEC. We do not provide any information regarding our SEC filings directly to the third-party website, and we do not check its accuracy or completeness.

Introduction

We are a leading manufacturer of solutions that provide global high-speed Internet, television, and voice services via satellite to mobile users at sea and on land. We are also a leading provider of commercially licensed entertainment, including news, sports, music, and movies, to commercial and leisure customers in the maritime, hotel, and retail markets. In addition, we develop and distribute training films and e-Learning computer-based training courses to commercial maritime customers. We are also a premier manufacturer of high-performance navigational sensors and integrated inertial systems for defense and commercial inertial navigation applications. 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 revenues from various international locations, primarily consisting of Canada, Europe (both inside and outside the European Union), Africa, Asia/Pacific, and the Middle East.

We are headquartered in Middletown, Rhode Island, with active operations in Denmark, Hong Kong, the State of Illinois, Japan, Norway, Singapore, and the United Kingdom.

Our Business Segments

Segment	Primary Products	Major Brands	2016 Net Sales [1]
Mobile connectivity	Satellite television, phone and internet solutions and media and content delivery solutions	TracVision® TracPhone® CommBox ™ Videotel® Mini-VSAT Broadband SM IP-MobileCast ™ KVH OneCare ™	$141,507
Inertial navigation	Digital compass and fiber optic gyro-based navigation and guidance systems	TACNAV®	34,615
		Total	$176,122

(1) Amounts in thousands

3

Table of Contents

Mobile Connectivity Segment

The mobile connectivity segment primarily manufactures and distributes a comprehensive family of mobile satellite antenna products and services that provide access to the Internet and voice services while on the move. Product sales within the mobile connectivity segment accounted for approximately 23%, 23% and 25% of our consolidated net sales for 2016, 2015 and 2014, respectively. Sales of mini-VSAT Broadband airtime service accounted for approximately 37%, 35%, and 35% of our consolidated net sales for 2016, 2015, 2014, respectively. Sales of content and training sales within the mobile connectivity segment accounted for approximately 20%, 21% and 14% of our consolidated net sales for 2016, 2015 and 2014, respectively.

In the global maritime market, we believe that there is significant demand for mobile access to television, entertainment, voice services, the Internet, and near real-time operational services such as safety training, navigation chart updates, weather services, and voyage optimization. For both maritime and onshore customers that want to access live television while on the move, we offer a comprehensive family of mobile satellite antenna products marketed under the TracVision brand. For access to the Internet and voice services while on the move, which we refer to collectively as our airtime services, we offer a family of mobile satellite antenna products and services marketed under the brands TracPhone and mini-VSAT Broadband. The network infrastructure that we have developed to support our airtime services also supports the delivery of other value-added services over our IP-MobileCast content delivery service for both entertainment and operational needs.

Our mobile satellite antenna products are typically installed on mobile platforms and use sophisticated robotics, stabilization and control software, sensing technologies, transceiver integration, and advanced antenna designs to automatically search for, identify and point directly at the selected television and communications satellite while the vehicle or vessel is in motion. Our antennas use gyros and inclinometers to measure the pitch, roll and yaw of an antenna platform in relation to the earth. Microprocessors and our proprietary stabilization and control software use that data to compute the antenna movement necessary for the antenna’s motors to point the antenna properly and maintain contact with the satellite. If an obstruction temporarily blocks the satellite signal, our products continue to track the satellite’s location according to the movement of the antenna platform in order to carry out automatic, rapid reacquisition of the signal when a direct line of sight to the satellite is restored.

Our Certified Support Network offers our TracVision and TracPhone customers an international network of skilled technical dealers and support centers in many locations where our customers are likely to travel. We have selected distributors based on their technical expertise, professionalism, and commitment to quality, and regularly provide them with extensive training in the sale, installation and support of our products.

Maritime

In the marine market, we offer a range of mobile satellite TV and communications products.

Satellite TV. Our TracVision TV-series satellite TV antennas, are designed with the full spectrum of vessel sizes in mind, ranging from recreational vessels as small as 20 to 25 feet to large commercial vessels. The TV-series incorporate an Internet Protocol (IP)-enabled control unit to allow access to system information from any Wi-Fi device. Our family of marine TracVision products includes the 32-cm diameter TracVision TV1, 37-cm diameter TracVision TV3, 45-cm diameter TracVision TV5, and the 60-cm diameter TracVision TV6, each of which employs a high-efficiency circular parabolic antenna. In April 2015, we also introduced the 81-cm TracVision TV8. These products are compatible with Ku-band HDTV programming as well as high-powered regional satellite TV services around the globe, based on available signal strength and antenna size requirements.

Our TracVision HD-series satellite TV antennas are designed to offer a high definition TV experience comparable to that enjoyed by a home DIRECTV HDTV subscriber. Our TracVision HD7 uses a 61-cm diameter satellite TV antenna to receive signals from two DIRECTV Ka-band satellites and one DIRECTV Ku-band satellite simultaneously. It includes an IP-enabled antenna control unit as well as optional antenna control via a free TracVision application for use on an Apple iPhone or iPad. We believe the TracVision HD7 was the first marine antenna to offer this combination of capabilities. Our TracVision HD11 offers a worldwide satellite TV capability through the use of a 1-meter diameter antenna and a global low noise block designed for use with the majority of direct-to-home satellite TV services. As a result, it is able to receive all Ku-band and DIRECTV Ka-band satellite television signals without changing out hardware elements. The Ku-band also works with modern satellite television

services currently available in the world. The Ka-band will receive DIRECTV HDTV. Like the TracVision HD7, it features a customer application for the Apple iPhone or iPad to provide easy control of the system.

Table of Contents

Satellite Phone and Internet. Our mini-VSAT Broadband network offers an end-to-end solution for offshore connectivity. This unified C/Ku-band Broadband service enables us to offer commercial, leisure, and government customers an integrated hardware and service solution for mobile communications and seamless region-to-region roaming. We design and manufacture the onboard TracPhone V-IP terminals, own hub equipment installed in leased earth stations, lease the satellite capacity, manage the network through third-party service providers, and provide 24/7/365 after-sale support. Because we manufacture the onboard hardware, we can integrate the full rack of discrete below decks equipment typically used on traditional VSAT systems into a single, streamlined unit that is significantly easier to deploy than competing VSAT solutions. Our mini-VSAT Broadband network utilizes ArcLight spread spectrum modem technology developed by ViaSat. This spread spectrum approach reduces the broadcast power requirements and the pointing accuracy necessary to track the C- and Ku-band satellites that carry the service. The resulting efficiencies allowed us to develop and bring to market our TracPhone V-IP terminals. Our 60-cm diameter TracPhone V7-IP Ku-band antenna is 85% smaller by volume and 75% lighter than alternative 1-meter diameter VSAT antennas. Our 37-cm diameter TracPhone V3-IP Ku-band antenna is practical for use on smaller vessels as well as land vehicles. We believe that the TracPhone V3 is the smallest maritime VSAT system currently available. Our dual-mode TracPhone V11-IP antenna seamlessly tracks both C- and Ku-band satellites, making it the only 1-meter diameter maritime VSAT antenna to deliver seamless global coverage outside the far polar regions.

We are actively engaged in sales efforts for the TracPhone V-IP Series and mini-VSAT Broadband service to government agencies for maritime, military, and emergency responder use. In September 2010, the U.S. Coast Guard awarded us a 10-year contract valued at up to $42 million to supply TracPhone V7 systems and mini-VSAT Broadband airtime to as many as 216 U.S. Coast Guard cutters. As of December 31, 2016, we have supplied TracPhone V7 and V7-IP systems for 113 U.S. Coast Guard vessels. We also continue to expand our ability to support the commercial maritime market. In March 2011, we signed a contract to provide TracPhone V7 and mini-VSAT Broadband service to Netherlands-based Vroon B.V. and its fleet of more than 125 commercial vessels and, as of December 31, 2016, 125 systems have shipped. In December 2016, Vroon extended its contract for KVH's maritime satellite communications solution, choosing the mini-VSAT Broadband network for connectivity services onboard an additional 15 Vroon vessels, all of which shipped in 2016. The multi-year contract includes KVH's IP-MobileCast service and preventive maintenance checks as part of the KVH OneCare program. Additionally, BW, a leading global maritime company, recently agreed to switch from an unlimited airtime plan to KVH's open rate plans for several liquefied natural and petroleum gas (LNG and LPG) vessels that have TracPhone V11-IP systems onboard, and Seaspan, a leading independent owner, operator, and manager of containerships, opted for KVH's open rate plans for global connectivity for 35 vessels that have TracPhone V11-IP systems installed.

We also offer CommBox, a ship-to-shore network management product that comprises shipboard hardware, a KVH-hosted or privately owned shore-based hub, and a suite of software applications. CommBox offers a range of tools designed to increase communication efficiency, reduce costs, and manage network operations. Key functions include web and data compression and optimization to increase network capacity; remote PC management for customer IT departments; integrated e-mail, firewalls, and security; least-cost routing; and bandwidth management on multiple communication carriers. We offer the CommBox functionality as an option for all TracPhone V-IP Series products through software accompanying the integrated Commbox modem. We receive subscription fees related to the selected software applications and monthly system maintenance fees. Because we offer CommBox as an integrated solution, we do not generate meaningful revenue from sales of standalone CommBox hardware.

We also offer Iridium OpenPort hardware and service to be used in conjunction with our mini-VSAT service. Iridium OpenPort service provides data rates up to 128Kbps and covers the entire world, including the polar regions. We offer the Iridium hardware and service along with our own mini-VSAT solution with the integrated CommBox functionality, which will switch over to the Iridium service if the mini-VSAT service is not available. Our customers might choose to add the Iridium service to expand the geographic coverage of the system or as a backup service.

In addition to our TracPhone VSAT products and mini-VSAT Broadband service, we also offer a family of Inmarsat-compatible TracPhone products that provide in-motion access to global satellite communications. These products rely on services offered by Inmarsat, a satellite service provider that supports links for phone, fax, and data communications as fast as 432 Kbps. The TracPhone FB150, FB250, and FB500 antennas use the Inmarsat

FleetBroadband service to offer voice as well as high-speed Internet service. The TracPhone FB150, FB250, FB500 and FleetOne products are manufactured by Thrane & Thrane A/S of Denmark (acquired by Cobham) and distributed on an OEM basis by us in North America under our TracPhone brand and distributed in other markets on a non-exclusive basis.

Unlike mini-VSAT Broadband, where we control and sell the airtime, we purchase Inmarsat and Iridium airtime from a distributor and resell it to our customers.

Table of Contents

Land Mobile

We design, manufacture, and sell a range of TracVision satellite TV antenna systems for use on a broad array of vehicles, including recreational vehicles, buses, conversion vans, and automobiles.

In the RV and bus markets, we offer TracVision satellite TV products, intended for both stationary and in-motion use. Our TracVision R1 delivers DIRECTV or DISH network service through a small 32-cm diameter dome. Our TracVision A9, introduced in January 2015 as a replacement for the DIRECTV-only TracVision A7, uses hybrid phased-array antenna technology to provide in-motion reception of satellite TV programming in the continental United States using either the DIRECTV or DISH Network services. The TracVision A9 stands approximately five inches high and mounts either to a vehicle's roof rack or directly to the vehicle's roof, making it practical for use aboard minivans, SUVs and other passenger vehicles. The TracVision A9 includes a mobile satellite television antenna and an IP-enabled TV hub for easy system configuration and control via Wi-Fi devices, such as an Apple iPhone or iPad. The TracVision A9 is also suitable for tall motor coaches and buses. Automotive customers subscribe to DIRECTV's TOTAL CHOICE MOBILE satellite TV programming package, which is specifically promoted for automotive applications, or to DISH Network programming.

Airtime Services

In addition to our mobile satellite antenna hardware and software, we offer airtime plans that enable customers to obtain Internet and voice services. We offer a variety of rate plans that typically require an initial commitment of one or more years with a one-year auto-renewal feature. In October 2015, we introduced mini-VSAT Broadband 2.0, our second generation mini-VSAT service. The key features of the mini-VSAT Broadband 2.0 service are usage-based airtime plans, a new network management portal and a new comprehensive global customer support program. Our new airtime plans are a series of usage-based plans, designed around each vessel's monthly data requirements for operational and crew needs, that deliver data at higher speeds. Our new network management portal, myKVH, is a secure portal that enables a ship operator to manage network usage by vessel or by individual crew members by allocating operational and crew data caps while receiving customized usage alerts. For customers that want the certainty of a fixed monthly price, we continue to offer fixed rate plans that vary depending on data speeds and include protocol restrictions, such as limiting streaming of video content. User speeds are also restricted but not stopped when users reach established data use thresholds. In addition, we offer multiple metered plans that are either billed monthly based on the data consumed without any application or protocol blocking or based on a monthly minimum data quota with the option to add more data for an incremental charge. The TracPhone V3-IP requires a metered plan while the TracPhone V7-IP and V11-IP can support any plan.

The high bandwidth offered by the Ku-band satellites also permits faster data rates than those supported by Inmarsat's L-band satellites. TracPhone V7-IP and V11-IP customers may select service packages with Internet data connections offering shore-to-ship satellite data rates as fast as 4 megabits per second, or Mbps, and ship-to-shore satellite data rates as fast as 1 Mbps. The TracPhone V3-IP, due to its smaller dish diameter, offers shore-to-ship satellite data rates as fast as 2 Mbps and ship-to-shore data rates as fast as 128 kilobits per second, or Kbps. In addition, subscriptions include Voice over Internet Protocol (VoIP) telephone services designed for use over satellite connections. The TracPhone V7-IP and V11-IP can support two or more simultaneous calls while the TracPhone V3-IP can support one call at a time.

Our mini-VSAT Broadband network currently uses a combination of 23 Ku-band and three global C-band transponders on 18 satellites to provide coverage throughout the northern hemisphere and all of the major continents in the southern hemisphere. We currently offer our Ku-band mini-VSAT Broadband service in the Americas, Europe, the Middle East, Africa, Asia-Pacific, and Australian and New Zealand waters. It is our long-term plan to continue to invest in and enhance our mini-VSAT Broadband network. In March 2015, we expanded our capacity in the Asia-Pacific and Pacific Northwest regions and doubled our mini-VSAT broadband network capacity in eastern Canada and U.S. coastal regions. In December 2015, we more than doubled our broadband capacity in the North Atlantic Ocean region and added a new beam across Europe, the Middle East and Africa, effectively adding 30% more capacity. Under the terms of our revenue sharing arrangement with ViaSat, these types of expansions position us to earn revenue not only from the maritime and land-based use of the mini-VSAT Broadband service but also from aeronautical applications that roam throughout our network.

In June 2015, we implemented a global private multiprotocol label switching (MPLS) network connecting all of our teleports and satellite beams. We believe that transitioning from the public Internet to a private MPLS network provides increased security, enhanced quality of service and increased network reliability and uptime for our customers.

Table of Contents

Content and Training Services

As part of our mobile communications segment, we offer a variety of value-added services to our maritime customers as well as news content to our hotel customers and radio content to a small number of retail customers. The vast majority of these value-added services are subscription-based.

In May 2013, we acquired Headland Media Limited (now known as KVH Media Group), a media and entertainment service company based in the United Kingdom that distributes commercially licensed entertainment, including news, sports, music, and movies, to commercial and leisure customers in the maritime, hotel, and retail markets. Sales from KVH Media Group are included in our mobile broadband service sales. Our "news from home" digital newspaper service includes more than 100 daily newspapers in more than 20 languages that at the end of 2016 was delivered to more than 10,400 commercial ships, hotels, and cruise ships. The digital content can be printed onboard or viewed on a tablet, smartphone, or laptop. For movie content, we are an approved distributor of licensed content for certain major Hollywood, Bollywood, and independent studios. For television content, we are an approved distributor for certain major TV studios worldwide.

In July 2014, we acquired Videotel Marine Asia Limited and Super Dragon Limited (together referred to as Videotel), a leading provider of high-quality training films and e-Learning services for the commercial maritime industry. Servicing close to 12,000 fielded training systems at the end of 2016, Videotel offers video, animation, e-Learning computer-based training and interactive distance learning services. Certification and refresher courses are mandated by international regulations and, at the end of 2016, more than 13 million training hours of Videotel content had been delivered to over 340,000 registered crew members. Sales from Videotel are included in our mobile broadband service sales.

In late 2014, we launched a new content delivery service called IP-MobileCast. Content and data files are transmitted using multicast technology across our global satellite network to every vessel or mobile vehicle that has an active, compatible TracPhone V series or V-IP series terminal. The content is either stored on the terminal itself or on a KVH-supplied media server, which is required for digital rights managed content such as movies and Videotel content. This delivery mechanism reduces the amount of bandwidth required to transmit large files to a large population of customers. Before multicasting, large data files were generally transmitted across satellite networks “on demand” or unicast, which consumes significant bandwidth. Moreover, copyright law requires permission from the rights holder for exhibitions of copyrighted film and television. Historically, studios have granted KVH Media Group permission to license non-theatrical exhibitions aboard ships. While traditionally we have licensed this content to commercial maritime customers through the distribution of DVDs, we have now automated the transmission of this type of entertainment via IP-MobileCast.

Customers that subscribe to one of our entertainment packages generally receive a variety of movie and television content that is cached locally onboard with unlimited onboard viewing for a year. We transmit over 400 local "news from home" segments in a variety of languages on a monthly basis, up to 20 movies a month plus daily sports and news clips and special programming such as the highlights of sporting events.

We also offer a variety of operational services through IP-MobileCast. Subscribers to the Videotel training and e-Learning content can also receive new content over the IP-MobileCast network through TRAININGlink, whereby customers receive new content more frequently than once a year. As part of our CHARTlink service, we transmit electronic chart updates for ECDIS solution providers Transas and Jeppesen. For our FORECASTlink service, we transmit global forecasts and high-resolution weather data provided by AWT. Our charting and weather forecasting services provide critical content for voyage optimization.

In addition, we offer professional services for our VSAT products that include network design, installation of onboard TracPhone terminals and custom configuration of the CommBox based on customer requirements. These services are performed by our employees as well as a dealer network of certified engineers.

Inertial Navigation Segment

We offer a portfolio of digital compass and fiber optic gyro (FOG)-based systems that address the rigorous requirements of military and commercial customers. Our systems provide reliable, easy-to-use and continuously available navigation and pointing data. Our guidance and stabilization products include our FOG-based inertial measurement units (IMUs) for precision guidance, FOGs for tactical navigation as well as pointing and stabilization

systems, and digital compasses that provide accurate heading information for demanding applications. Sales of FOG-based guidance and navigation systems within the inertial navigation segment accounted for approximately 10%, 10%, and 12% of our consolidated net sales for 2016, 2015, and 2014, respectively. Sales of tactical guidance and navigation systems within the inertial navigation segment accounted for approximately 8%, 8%, and 11% of our consolidated net sales for 2016, 2015, and 2014, respectively.

Table of Contents

Guidance and Stabilization

Our high-performance digital signal processing (DSP)-based FOG products use an all-fiber design that has no moving parts, resulting in an affordable combination of precision, accuracy, and durability. Our FOG products support a broad range of military applications, including stabilization of remote weapons stations, antennas, radar, optical devices, or turrets; image stabilization and synchronization for shoulder-or tripod-mounted weapon simulators; precision tactical navigation systems for military vehicles, and guidance for weapons and unmanned autonomous vehicles. Our FOG products are also 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 TG-6000 IMU is a guidance system that provides precise measurement of motion and acceleration in three dimensions. It uses a three-axis configuration of our FOGs integrated with three accelerometers. We believe that this configuration provides outstanding performance, high reliability, low maintenance and easy system integration. The TG-6000 IMU is a component in the U.S. Navy's MK54 lightweight torpedo and is suitable for use in other applications that involve flight control, orientation, instrumentation, and navigation, such as unmanned aerial vehicles. The CG-5100, our first commercial-grade IMU, is suitable for a wide range of applications such as 3D augmented reality, mobile mapping, platform navigation, and GPS augmentation for unmanned vehicle programs, precise mapping, and imagery.

Our CNS-5000 continuous navigation system is a self-contained navigation system that combines our FOG-based inertial measurement technology with GPS technology from NovAtel. This navigation solution provides precise position and orientation of a host platform on a continuous basis, even during periods where GPS signals are blocked by natural or man-made obstructions or conditions. The CNS-5000 is designed for demanding commercial applications, such as dynamic surveying, mobile mapping, precision agriculture, container terminal management, and autonomous vehicle navigation, where the ability to determine the precise position and orientation of a piece of equipment or a mobile platform is critical. The CNS-5000 is a commercial-off-the-shelf (COTS) product consisting of a FOG-based inertial measurement unit tightly integrated with GPS within a single enclosure. This design reduces the operational complexities for customers whose products cross international boundaries.

Our open-loop DSP-1750, DSP-3000, and DSP-4000 FOGs provide precision measurement of the rate and angle of a platform's turning motion for significantly less cost than competing closed-loop gyros. These DSP-based products deliver performance superior to analog signal processing devices, which experience greater temperature-sensitive drift and rotation errors. Applications for these products include inertial measurement units, integrated navigation systems, attitude/heading/reference systems, and stabilization of antenna, radar, and optical equipment.

The DSP-1750, which we believe to be the world's smallest high-performance FOG, uses our E·Core™ ThinFiber technology. This thin fiber, which is created at our Tinley Park, Illinois manufacturing facility, is only 170 microns in diameter, enabling longer lengths of fiber to be wound into smaller housings. Since the length of the fiber used in a FOG directly relates to gyro accuracy and performance, this technology enables us to produce smaller and more accurate gyros. The small size and weight of the DSP-1750 make it well suited for applications with size and weight restrictions, such as night vision and thermal imaging systems, aircraft-mounted gimbaled cameras for law enforcement and homeland security, and shipboard optical systems.

Our DSP-1760 single-axis and multi-axis FOGs offer improved performance and ease of integration relative to the DSP-1750. Many customers using our DSP-1750 single-axis and dual-axis FOGs also had requirements for packaged DSP-1750s. To address this demand, we introduced the DSP-1760 product line, consisting of packaged one, two, or three axes of FOGs, each with two different interface connector options.

The DSP-3000 and DSP-3100 are each slightly larger than a deck of playing cards and offers a variety of interface options to support a range of applications. High-performance 2-axis and 3-axis configurations can be realized by integrating multiple DSP-3000 and DSP-3100 units. Currently, the DSP-3000 and DSP-3100 are used in an array of pointing and stabilization applications, including the U.S. Army's Common Remotely Operated Weapon Station (CROWS) to provide the image and gun stabilization necessary to ensure that the weapon remains aimed at its target. We estimate that more than 20 companies have developed or are developing stabilized remote weapons stations that we believe will require similar FOG stabilization capabilities. The larger, militarized dual axis DSP-4000 is designed

for use in high-shock and highly dynamic environments, such as gun turret stabilization.

Table of Contents

Our 1750 IMU is an advanced 6-degrees-of-freedom sensor designed to integrate easily into the most demanding stabilization, pointing, and navigation applications. It offers enhanced performance at a lower cost than competing systems. The 1750 IMU marries the E·Core ThinFiber technology of our DSP-1750 FOGs with very low noise, solid state MEMS accelerometers to create a commercial-off-the-shelf IMU. In September 2014, we introduced our new 1775 IMU and 1725 IMU products to complement the 1750 IMU and provide customers with a range of choices for advanced 6-degrees-of-freedom sensors. The family of IMUs offers exceptional precision in a very small form factor, making them suitable for applications where space is limited, such as manned and unmanned commercial and defense platforms, optical equipment stabilization systems, pipeline inspection equipment, and autonomous vehicle control and navigation systems.

In January 2016, we introduced the GEO-FOG 3D and GEO-FOG 3D Dual inertial navigation systems that offers roll, pitch and heading accuracies of 0.05 degrees for demanding applications in unmanned, autonomous and manned aerial platforms. These systems combine our 1750 IMU technology with centimeter-level precise GNSS receivers, a 3-axis magnetometer and a barometric pressure sensor.

Tactical Navigation

Our TACNAV® tactical navigation product line employs digital compass sensors and KVH FOGs to offer vehicle-based navigation and pointing systems with a range of capabilities, including GPS backup and enhancement, vehicle position, hull azimuth and navigation displays. Because our digital compass products measure the earth's magnetic field rather than detect satellite signals from the GPS, they are not susceptible to GPS jamming devices. TACNAV systems vary in size and complexity to suit a wide range of vehicles. Our TACNAV Light is a low-cost, digital compass-based battlefield navigation system specifically designed for non-turreted vehicles, such as high mobility multi-wheeled vehicles (HMMWVs) and trucks. Our TACNAV TLS, a digital compass-based tactical navigation and targeting system, offers a FOG upgrade for enhanced accuracy designed for turreted vehicles, including reconnaissance vehicles, armored personnel carriers, and light armored vehicles. Our TACNAV II Fiber Optic Gyro Navigation system offers a compact design, continuous output of heading and pointing data, and a flexible architecture that allows it to function as either a stand-alone navigation module or as the central component of an expanded, multifunctional navigation system. In June 2014, we introduced our new TACNAV 3D product, which is FOG-based and provides full three-dimensional navigation. The TACNAV 3D is fitted with an Iridium transceiver to transmit and receive vehicle position, waypoint, and target location to or from a command center or other vehicle. The system also allows messages to be received from battlefield management systems.

Our navigation systems function as standalone tools and also aggregate, integrate, and communicate critical information from a variety of on-board systems. TACNAV can receive data from systems such as the vehicle's odometer, military and commercial GPS devices, laser rangefinders, turret angle indicators and laser warning systems. TACNAV can also output this data to an on-board computer for retransmission through the vehicle's communications systems to a digital battlefield management application.

Our TACNAV digital compass products have been sold for use aboard U.S. Army, Marine Corps, and Navy vehicles as well as to many foreign countries, including Australia, the United Kingdom, Canada, Germany, Italy, New Zealand, Saudi Arabia, Spain, Sweden, Taiwan, Malaysia, and Switzerland. We believe that we are among the leading manufacturers of such systems. Our standard TACNAV products can be customized to our customers' specifications. At customer request, we offer training and other services on a time-and-materials basis.

Value-Added Services

Our value-added services for the inertial navigation market include engineering and program management services, product repairs, and engineering services provided under development contracts.

Table of Contents

Sales, Marketing and Support

Our sales, marketing and support efforts target markets that are substantial and complex, and require in many cases networks of intermediaries, such as dealers, resellers, manufacturers' representatives and distributors, to reach our ultimate customers. These sales channels vary and evolve from time to time, but currently include targeted efforts to reach the commercial and leisure maritime markets; the recreational vehicle (RV), high-end automotive and bus markets; and the commercial, industrial, and government markets. As our business evolves, we may pursue additional sales channels, including direct sales, in various markets. We believe our brands are well known and well respected by customers within their respective niches. These brands include:

- TracVision - satellite television systems for vessels and vehicles
- TracPhone - two-way satellite communications systems
- mini-VSAT Broadband - hardware, software, content and content delivery for mobile satellite communications network
- IP-MobileCast - content delivery service
- NEWSlink - maritime news delivery service through a variety of means
- SPORTSlink - sporting content delivered through a variety of means
- TVlink - television programming delivered through a variety of means
- MOVIElink - movie distribution through a variety of means
- Videotel - maritime eLearning content and related services
- CommBox - network management hardware and software for maritime communications
- TACNAV - tactical navigation systems for military vehicles
- KVH OneCare - services and support for the mini-VSAT Broadband solution

We sell our mobile connectivity products directly and through an international network of independent retailers, chain stores and distributors, as well as to manufacturers of vessels and vehicles.

We sell news, sports, and entertainment media content directly through our KVH Media Group, headquartered in Leeds, England, and our training and e-Learning content directly though our Videotel group, which is located in London, England, and Hong Kong.

Our European headquarters, which is located in Denmark, coordinates our sales, marketing, and support efforts for our mobile connectivity products in Europe, the Middle East, and Africa. Asian and Australia/New Zealand sales are managed through our offices located in Singapore. All international offices are managed under the oversight of our Chief Operating Officer. See Note 13 of the notes to our consolidated financial statements for information regarding our segments.

We sell our inertial navigation products directly to U.S. and foreign governments and government contractors, as well as through an international network of authorized independent sales representatives. This network also sells our FOG products to commercial and industrial customers.

Backlog

Backlog is not a meaningful indicator for predicting revenue in future periods. Commercial resellers for our mobile connectivity products and legacy products do not carry extensive inventories and rely on us to ship products quickly. Generally, due to the rapid delivery of our commercial products, our backlog for those products is not significant. Our backlog for all products and services was $8.9 million, $19.8 million, and $27.3 million on December 31, 2016, 2015, and 2014, respectively. As of December 31, 2016, $8.4 million of our backlog was scheduled for fulfillment in 2017 and $0.5 million was scheduled for fulfillment in 2018 through 2025. The decrease in backlog of $10.9 million from December 31, 2015 to December 31, 2016 was primarily the result of the fulfillment of various TACNAV and FOG product orders. The decrease in backlog of $7.5 million from December 31, 2014 to December 31, 2015 was primarily the result of shipments made in the fourth quarter of 2015 related to a $19.0 million TACNAV product and services contract, announced in October 2014, with an international military customer for our FOG-based tactical navigation system.

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 or media content service sales in our backlog even

though many of our satellite connectivity and media content 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

Table of Contents

resulting from termination. As of December 31, 2016, our backlog included approximately $1.1 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.

Intellectual Property

Our ability to compete effectively depends to a significant extent on our ability to protect our proprietary information. We rely primarily on patent, copyright and trade secret laws, confidentiality procedures, and licensing arrangements to protect our intellectual property rights. We own 23 U.S. and foreign patents and have 6 additional patent applications that are currently pending. We also register our trademarks in the United States and other key markets where we do business. Our patents will expire at various dates between April 2017 and December 2036. We enter into confidentiality agreements with our consultants, key employees, and sales representatives and maintain controls over access to and distribution of our technology, software, and other proprietary information. 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.

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

From time to time, we have faced claims by third parties that our products or technologies infringe their patents or other intellectual property rights, and we may face similar claims in the future. 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 is 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 seek to 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.

Manufacturing

Manufacturing operations for our mobile satellite communications and navigation products consist of light manufacture, final assembly and testing. Manufacturing operations for our FOG products are more complex. We produce specialized optical fiber, FOG components and sensing coils and combine them with components purchased from outside vendors for assembly into finished goods. We own optical fiber drawing towers with which we produce the specialized optical fiber that we use in all of our FOG products. Excluding the CommBox product, which we manufacture in Norway, we manufacture, warehouse and distribute our mobile satellite communications products at our facilities in Middletown, Rhode Island. We manufacture our navigation and FOG products in our facility located in Tinley Park, Illinois.

We contract with third parties for fabrication and assembly of printed circuit boards, injection-molded plastic parts, machined metal components, connectors and housings. We believe there are a number of acceptable vendors for the components we purchase. We regularly evaluate both domestic and foreign suppliers for quality, dependability and cost effectiveness. In some instances, we utilize sole-source suppliers to develop strategic relationships to enhance the quality of materials and save costs. Our manufacturing processes are controlled by an ISO 9001:2008-certified quality standards program.

For subscribers of the Videotel maritime safety video and computer-based training modules, we provide computer hardware preloaded with the content, (VOD kiosk), which is updated annually by DVD. We use two contract manufacturers in the United Kingdom to supply the VOD kiosks, which eliminates the dependence on one vendor.

Raw Materials, Components and Services

We purchase raw materials and most of the components used in our various manufacturing processes. In addition, we purchase certain services, predominantly networking and mobile broadband services, to support the delivery of our mobile communications solutions.

The materials, molds and dies, subassemblies and components purchased from other manufacturers, and other materials and supplies used in our manufacturing processes have generally been available from a variety of sources. From time to time the

Table of Contents

cost and availability of materials and services is affected by the demands of other industries, among other factors. Whenever practical, we establish multiple sources for the purchase of raw materials, components and services to achieve competitive pricing, ensure flexibility, and protect against supply disruption. When possible, we employ a company-wide procurement strategy designed to reduce the purchase price of materials, purchased components and services.

For reasons of quality assurance, scarcity or cost effectiveness, certain components and raw materials used in the manufacturing of our products, as well as certain services utilized in the delivery of our solutions, are available only from a limited number of suppliers or from a sole source supplier. We have worked closely with our suppliers to develop contingency plans to assure continuity of supply while maintaining high quality and reliability, and in some cases, we have established long-term supply contracts with our suppliers. Due to the nature of certain raw materials, purchased components and services, we may not be able to quickly establish additional or replacement sources for certain components, materials or services. In the event that we are unable to obtain sufficient quantities of raw materials or components or unable to obtain sufficient access to the services needed to deliver our solutions on commercially reasonable terms or in a timely manner, our ability to manufacture and deliver our products and services on a timely and cost-competitive basis may be compromised, which may have a material adverse effect on our business, financial condition and results of operations. To date, we have not experienced any material adverse effect on our financial condition or results of operations due to supplier limitations.

Competition

We encounter significant competition in all of our markets, and we expect this competition to intensify in the future. Many of our primary competitors are well-established companies and some have substantially greater financial, managerial, technical, marketing, operational, and other resources than we do.

In the marine market for satellite TV equipment, we compete primarily with Intellian, Cobham SATCOM, Orbit Communication Systems, RayMarine (Intellian made), KNS, and Sea King (King Controls).
In the marine market for voice, fax, data, and Internet communications equipment, we compete primarily with Intellian, Cobham SATCOM, Orbit Communication Systems, Jotron AS, KNS Inc., Inmarsat, AddValue, and Iridium Satellite LLC.
In the marine market for voice, fax, data, and Internet services, we compete primarily with Inmarsat, Globalstar LP, and Iridium Satellite LLC. We also face competition from providers of marine satellite data services and maritime VSAT solutions, including Inmarsat, Marlink, MTN/SeaMobile (acquired by Global Eagle Entertainment), Speedcast, and Harris CapRock (acquired by Speedcast).
In the market for land mobile satellite TV equipment, we compete primarily with King Controls and Winegard Company.
In the markets for media content, we compete primarily with Swank Motion Pictures and PressReader.
In the markets for safety and e-Learning content, we compete primarily with Seagull AS.
In the markets for mobile satellite connectivity technology, the principal competitive factors are product size, features, design, performance, reliability, and price. In the markets for airtime services, the principal competitive factors are geographic coverage, data speed, value-added services, and price. In the markets for media content, the principal competitive factors are license rights, distribution, and price.
In the inertial navigation markets, we compete primarily with Honeywell International Inc., Northrop Grumman Corporation, Goodrich Aerospace, IAI, Fizoptica, SAGEM, and Systron Donner Inertial. We believe the principal competitive factors in these markets are performance, size, reliability, durability, and price.
Although we believe that we compete favorably with respect to these factors, there can be no assurance that we will continue to do so. We encounter substantial competition in most of our product lines, although no single competitor competes with us across all product lines.

12

Table of Contents

Research and Development

Focused investments in research and development are critical to our future growth and competitive position in the marketplace. Our research and development efforts are directly related to timely development of new and enhanced products and services that are central to our core business strategy. The industries in which we compete are subject to rapid technological developments, evolving industry standards, changes in customer requirements, and new product and service introductions and enhancements. As a result, our success depends in part upon our ability, on a cost-effective and timely basis, to continue to enhance our existing products and to develop and introduce new products and services that improve performance and meet customers' operational and cost requirements. Our current research and development efforts include projects to achieve additional cost reductions in our products and the development of new products and services for our existing marine and land mobile communications markets, and navigation, guidance, and stabilization application markets. For example:

- We released the DSP-1760 Unhoused Multi-Axis FOG, which provides more flexibility for our customers to build navigation and stabilization systems
- We developed, but did not release, technologies, products and services to support future high throughput satellite (HTS) initiatives that will provide higher speed Internet services to our customers
- We released the TACNAV Moving Map Display to provide more capability to our TACNAV customers who use our dead reckoning systems to operate in GPS denied environments

Our research and development activities consist of projects funded by us and projects funded with the assistance of customer-funded contract research. Our customer-funded research efforts are made up of contracts with defense and OEM customers, whose performance specifications are unique to their product applications. Defense and OEM research often results in new product offerings. We strive to be the first company to bring a new product to market, and we use our own funds to accelerate new product development efforts.

Our research and development costs were approximately $16.0 million, $14.0 million, and $14.1 million for 2016, 2015, and 2014, respectively, and represented 9%, 8%, and 8% of consolidated net sales for 2016, 2015, and 2014, respectively.

Government Regulation

Our manufacturing operations are subject to various laws governing the protection of the environment and our employees. These laws and regulations are subject to change, and any such change may require us to improve our technologies, incur expenditures, or both, in order to comply with such laws and regulations.

We are subject to compliance with the U.S. Export Administration Regulations. Some of our products have military or strategic applications and are on the Munitions List of the U.S. International Traffic in Arms Regulations. These products require an individual validated license to be exported to certain jurisdictions. The length of time involved in the licensing process varies and can result in delays of the shipping of the products. Sales of our products to either the U.S. government or its prime contractors are subject to the U.S. Federal Acquisition Regulations.

We are also subject to the laws and regulations of the U.S. and foreign jurisdictions in which we offer and sell our satellite communication products and services, including those of the European Union, Brazil, Norway, Singapore, and Japan. These laws and regulations, as well as the interpretation and application of these laws and regulations, are subject to change and any such change may affect our ability to offer and sell existing and planned satellite communications products and services.

Employees

On December 31, 2016, we employed 635 full-time employees. We also employ part-time employees as well as temporary or contract personnel, when necessary, to provide short-term and/or specialized support for production and other functional projects.

We believe our future success will depend upon the continued service of our key technical and senior management personnel and upon our continued ability to attract and retain highly qualified technical and managerial personnel. None of our employees is represented by a labor union. We have never experienced a work stoppage and consider our relationship with our employees to be good.

13

Table of Contents

Working Capital and Seasonality

We hold significant inventory to support our customers and provide prompt delivery of finished goods. As a consequence, we expend substantial working capital in advance of receipt of customer orders. Because of the large size of certain orders, we often incur significant receivables upon order fulfillment.

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

Table of Contents

ITEM 1A. Risk Factors

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

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

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

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

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

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

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

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

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

Table of Contents

until the regular appropriation bills are passed), delays can occur in procurement of products and services due to lack of funding, and these delays can affect our results of operations during the period of delay.

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

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

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

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

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

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

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

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

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

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

Table of Contents

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

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

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

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

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

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

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

The markets for mobile connectivity products and services and inertial navigation products and services are each characterized by rapid technological change, frequent new product innovations, changes in customer requirements and expectations, and evolving industry standards. For example, Inmarsat is now selling its latest-generation Fleet Xpress

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

Table of Contents

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

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

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

These factors periodically cause substantial fluctuations in sales of our TACNAV and FOG products and services from period to period. For example, FOG products decreased $1.2 million, or 6% and TACNAV service sales decreased $1.6 million or 6%, from 2015 to 2016. Similarly, sales of our TACNAV products decreased $3.6 million, or 20%, from 2014 to 2015 and sales of our FOG products decreased $1.6 million, or 7%, from 2014 to 2015. In October 2014, we received a $19.0 million TACNAV product and services contract with an international military customer which include program management and engineering services expected to be delivered through 2017 and hardware shipments that were completed in the third quarter of 2016, as well as out-year support services to be provided as part of this order. These large orders contribute to the unpredictability of our revenues from period to period. Government customers may change defense spending priorities at any time.

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

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

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

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

Table of Contents

Commercial sales of our inertial navigation products are unpredictable.

Fluctuating commercial sales of our inertial navigation products are making it more difficult to predict our future revenues. We have been marketing our inertial navigation products, particularly our FOG products and systems, to original equipment manufacturers for incorporation into commercial products, such as navigation and positioning systems for various applications, including precision mapping, dynamic surveying, self-driving and other autonomous vehicles, train location control and track geometry measurement systems, industrial robotics, and optical stabilization. Because we sell these products to original equipment manufacturers rather than end-users, we have less information about market trends and other developments affecting the buying patterns of end-users and, as a result, may be unable to forecast demand for these products accurately. Sales of FOGs for commercial applications increased from 2015 to 2016; however, sales can significantly increase or decrease quarter-to-quarter due to our customer mix. Moreover, sales of these products for commercial applications depend on the success of our customers' products, and any decline in sales of our customers' products would reduce demand for our products.

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

Our 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 winter months. Our marine leisure business is also significantly affected by the weather. Unseasonably cool weather, prolonged winter conditions, hurricanes, unusual amounts of rain, and natural and other disasters may decrease boating, which could reduce our revenues. Specifically, we may encounter a decrease in new airtime activations as well as an increase in the number of cancellations or temporary suspensions of our airtime service.

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

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

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

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

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

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

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

Table of Contents

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

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

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

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

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

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

We currently have, and will likely continue to have, a substantial amount of indebtedness. Our indebtedness could, among other things, make it more difficult for us to satisfy our financial obligations, require us to use a large portion of our cash flow from operations to repay and service our debt or otherwise create liquidity problems, limit our flexibility to adjust to market conditions, place us at a competitive disadvantage and expose us to interest rate fluctuations. As of December 31, 2016, we had total debt outstanding of $58.1 million, which included $53.6 million in aggregate principal amount of indebtedness outstanding under our term note that matures in 2019. As of December

31, 2016, there were no borrowings outstanding under the revolver and the full balance of $15 million was available for borrowing.

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

Table of Contents

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

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

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

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

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

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

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

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

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

default for any reason, our business, financial condition, and results of operations could be materially and adversely affected.

Our mobile satellite products currently depend on satellite services and facilities 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. We currently offer satellite television products compatible with the DIRECTV and DISH Network services in the United States, the Bell TV service in Canada, the Sky Mexico service and various other regional satellite TV services in other parts of the world.

Table of Contents

SES, Eutelsat, Sky Perfect-JSAT, Telesat, EchoStar, Intelsat and Star One currently provide the satellite capacity to support the mini-VSAT Broadband service and our TracPhone V-IP series products. Intelsat also currently provides our C-Band satellite coverage. In addition, we have agreements with various teleports and Internet service providers around the globe to support the mini-VSAT Broadband service. We rely on Inmarsat for satellite communications services for our FleetBroadband- and FleetOne-compatible TracPhone products.

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. In addition, the unexpected failure of a satellite could disrupt the availability of programming and services, which could reduce the demand for, or customer satisfaction with, our products.

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

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

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

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

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

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

Table of Contents

time, lead times for certain components can increase significantly due to imbalances in overall market supply and demand. This, in turn, could limit our ability to satisfy the demand for certain of our products on a timely basis and could result in some customer orders being rescheduled or canceled.

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

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

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

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

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

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

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

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

We market and sell our mobile connectivity products and services through an international network of independent retailers, chain stores and distributors, as well as to manufacturers of marine vessels, recreational vehicles and buses.

If we are unable to maintain or improve our distribution relationships, it could significantly limit our sales. Some of our distribution relationships are new, and our new distributors may not be successful in marketing and selling our products and services. In addition, our distribution partners do not have exclusive relationships with us and may sell products of other companies, including competing products, and are generally not required to purchase minimum quantities of our products.

Table of Contents

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

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

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

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

As a result of our expanding international operations, we are subject to a number of legal requirements, including the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act and the customs, export, trade sanctions and anti-boycott laws of the United States, including those administered by the U.S. Customs and Border Protection, the Bureau of Industry and Security, the Department of Commerce, the Department of State, and the Office of Foreign Assets Control of the Treasury Department, as well as those of other nations in which we do business. Compliance with these laws and regulations is complex and involves significant costs. These risks are heightened for acquired businesses that have historically been managed outside the United States, where these laws and regulations may not have applied to the same extent. Our assessment of compliance with these laws and regulations by businesses that we have acquired may not have uncovered instances of non-compliance, and we may face liability for such non-compliance. In addition, our training and compliance programs and our other internal control policies may be insufficient to protect us from acts committed by our employees, agents or third-party contractors. Any violation of these requirements by us or our employees, agents or third-party contractors may subject us to significant criminal and civil liability.

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

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

Table of Contents

Acquisitions may disrupt our operations or adversely affect our results.

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

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

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

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

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

- match our manufacturing facilities and capacity to demand for our products and services in a timely manner;
- secure appropriate satellite capacity to match changes in demand for airtime services in a timely manner;
- successfully attract, train, motivate and manage appropriate numbers of employees for manufacturing, sales, marketing and customer support activities;
- effectively manage our inventory and working capital;
- maintain the efficiencies within our operating, administrative, financial and accounting systems; and
-

ensure that our procedures and internal controls are revised and updated to remain appropriate for the size and scale of our business operations.

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

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

Table of Contents

Our success depends on the services of our executive officers.

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

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

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

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

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

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

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

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

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

prevent us from selling our products, and, in any case, could substantially increase our costs and have a material adverse effect on our business, financial condition and results of operations.

Table of Contents

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

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

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

In addition, the interpretation and application of consumer and data protection laws in the United States, Europe and elsewhere are often uncertain, contradictory and in flux. It is possible that these laws may be interpreted and applied in a manner that is inconsistent with our data practices. If so, this could result in government-imposed fines or orders requiring that we change our data practices, which could have an adverse effect on our business. Complying with these various laws could cause us to incur substantial costs or require us to change our business practices in a manner adverse to our business.

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

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

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

As described in “Item 9A. Controls and Procedures” of our annual report on Form 10-K for the year ended December 31, 2014, our management concluded that we had material weaknesses in our internal control over financial reporting as of December 31, 2014 and therefore did not maintain effective internal control over financial reporting or effective disclosure controls and procedures, both of which are requirements of the Securities Exchange Act of 1934, as of that

date. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. The material weaknesses related to inertial navigation contracts where revenue is recognized on a bill and hold basis, the accounting for income taxes and the accounting for multiple-element lease transactions. Following the identification of the material weaknesses in March 2015, management implemented remediation plans and successfully tested the control remediation as of December 31, 2015. On that basis, management concluded that the material weaknesses had been remediated as of December 31, 2015.

Table of Contents

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

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

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

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

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

A large portion of our expenses, including expenses for network infrastructure, facilities, equipment, and personnel, are relatively fixed. Accordingly, if our net sales decline or do not grow as much or as quickly as we anticipate, we

might be unable to maintain or improve our operating margins. Any failure to achieve anticipated net sales could therefore significantly harm our operating results for a particular fiscal period.

Table of Contents

The market price of our common stock may be volatile.

Our stock price has historically been volatile. During the period from January 1, 2014 to December 31, 2016, the trading price of our common stock ranged from $7.31 to $15.79. Many factors may cause the market price of our common stock to fluctuate, including:

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

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

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

We are subject to income taxes and other taxes in both the U.S. and the foreign jurisdictions in which we currently operate. The determination of our worldwide provision for income taxes and current and deferred tax assets and liabilities requires significant judgment and estimation. In the ordinary course of our business, there are many transactions and calculations where the ultimate tax determination is uncertain. We are subject to regular review and audit by both domestic and foreign tax authorities and to the prospective and retrospective effects of changing tax regulations and legislation. The new Presidential administration and Congress have expressed an intent to revise the federal tax code, and we are currently unable to predict the impact of any revisions on our tax position or tax obligations. Although we believe our tax estimates are reasonable, the ultimate tax outcome may materially differ from the tax amounts recorded in our consolidated financial statements and may materially affect our income tax benefit or expense, net loss or income, and cash flows in the period in which such determination is made. As of December 31, 2016, we had liabilities for uncertain tax positions of $0.8 million.

Deferred tax assets are recognized for the expected future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities, and for operating losses and tax credit carry forwards. A valuation allowance reduces deferred tax assets to estimated realizable value, which assumes that it is more likely than not that we will be able to generate sufficient future taxable income to realize the net carrying value. We review our deferred tax assets and valuation allowance on a quarterly basis. As part of our review, we consider positive and negative evidence, including cumulative results in recent years. As a result of negative evidence, principally three years of cumulative pre-tax operating losses as of December 31, 2016, we concluded that it was more likely than not that certain of our deferred tax assets were not realizable and therefore, recorded a full valuation allowance of $6.8 million against these deferred tax assets as of December 31, 2016.

If, during our quarterly reviews of our deferred tax assets, we determine that it is more likely than not that we will not be able to generate sufficient future taxable income to realize the net carrying value of our deferred tax assets, we will record a valuation allowance to reduce the tax assets to estimated realizable value. This could result in a material income tax charge.

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

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

Table of Contents

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

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

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

We are subject to the SEC's disclosure requirements for public companies that manufacture, or contract to manufacture, products for which certain minerals and their derivatives, namely tin, tantalum, tungsten and gold, known as “conflict minerals,” are necessary to the functionality or production of those products. These regulations require us to determine which of our products contain conflict minerals and, if so, to perform an extensive inquiry into our supply chain in an effort to determine whether or not such conflict minerals originate from the Democratic Republic of Congo, or DRC, or an adjoining country. The European Union is in the process of adopting its own conflict minerals disclosure requirements, which may apply to us and are likely to be more extensive than those adopted by the SEC. We may incur increased costs to comply with these disclosure requirements, including costs related to determining the source of any of the relevant minerals used in our products, which would adversely affect our results of operations. Because our supply chain is complex, the country of origin inquiry and due diligence procedures that we implement may not enable us to ascertain the origins of any conflict minerals that we use or determine that these minerals did not originate from the DRC or an adjoining country, which may harm our reputation with customers, investors, non-governmental organizations or others and lead to a decline in our stock price. In the conflict minerals report that we filed in 2016, we concluded that the origins of the relevant conflict minerals we used in 2015 were “DRC conflict undeterminable,” as a result of which we were not required to obtain an independent private sector audit of our conflict minerals report. The temporary rules permitting issuers to report that the origins of the conflict minerals they use are “DRC conflict undeterminable” have expired; however, as a result of pending litigation, the requirement to obtain an independent private sector audit is subject to a temporary stay unless an issuer wishes to report that its products are "DRC conflict-free." It is possible that the stay could be lifted, in which case we expect that the expenses of preparing our conflict minerals report and obtaining any necessary private sector audit will increase. We may also face difficulties in satisfying customers who may require that our products be certified as DRC conflict-free, which could harm our relationships with these customers and lead to a loss of revenue. These requirements could also have the effect of limiting the pool of suppliers from which we source these minerals, and we may be unable to obtain conflict-free minerals at competitive prices, which could increase our costs and adversely affect our manufacturing operations and our profitability.

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

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

- the ability of our Board of Directors to issue preferred stock, and determine its terms, without a stockholder vote;
- the classification of our Board of Directors, which effectively prevents stockholders from electing a majority of the directors at any one annual meeting of stockholders;
-

- the limitation that directors may be removed only for cause by the affirmative vote of the holders of two-thirds of our shares of capital stock entitled to vote;
- the prohibition against stockholder actions by written consent;
- the inability of stockholders to call a special meeting of stockholders; and
- advance notice requirements for stockholder proposals and director nominations.

ITEM 1B. Unresolved Staff Comments

None.

Table of Contents

ITEM 2. Properties

The following table provides information about our principal facilities as of December 31, 2016.

Location	Type	Principal Uses	Approximate Square Footage	Ownership	Lease Expiration
Middletown, Rhode Island	Office	Corporate headquarters, research and development, sales and service, marketing and administration	75,000	Owned	—
Middletown, Rhode Island	Plant and warehouse	Manufacturing and warehousing (mobile connectivity products)	75,300	Owned	—
Tinley Park, Illinois	Plant and warehouse	Manufacturing, warehousing, research and development (inertial navigation products)	101,000	Owned	—
Horten, Norway	Office	Research and development, sales, marketing and support	4,400	Leased	December 2018
Singapore	Office	Asian headquarters and sales office	2,000	Leased	April 2017
Kokkedal, Denmark	Office and warehouse	European headquarters, sales, marketing and support	11,000	Leased	3 month notice
Leeds, UK	Office	Audio/video production, sales and support	2,700	Leased	April 2018
Liverpool, UK	Office	Maritime sales, news production, marketing and support	4,692	Leased	June 2023
London, UK	Office	Sales, production, dispatch, and general office	7,309	Leased	August 2019
Leeds, UK	Media Lab	Audio/video production, Media distribution, sales and administration	6,236	Leased	January 2020
Manila, Philippines	Office	News production, inside sales, support	7,400	Leased	September 2021
New Delhi, India	Office	News production	1,800	Leased	November 2025

ITEM 3. Legal Proceedings

From time to time, we are involved in litigation incidental to the conduct of our business. In the ordinary course of business, we are a party to inquiries, legal proceedings and claims including, from time to time, disagreements with vendors and customers.

ITEM 4. Mine Safety Disclosures

Not applicable.

Table of Contents

PART II

ITEM 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information. Our common stock trades on the NASDAQ Global Select Market under the symbol "KVHI." The following table provides, for the periods indicated, the high and low sale prices for our common stock as reported on the NASDAQ Global Select Market.

	High	Low
Year Ended December 31, 2016:		
First quarter	$9.88	$8.00
Second quarter	10.20	7.51
Third quarter	9.24	7.31
Fourth quarter	12.75	7.50
Year Ended December 31, 2015:		
First quarter	$15.18	$11.62
Second quarter	15.79	11.14
Third quarter	13.99	9.22
Fourth quarter	10.64	8.83

Stockholders. As of March 8, 2017, we had 73 holders of record of our common stock. This number does not include stockholders for whom shares were held in a nominee or "street" name.

Dividends. We have never declared or paid cash dividends on our capital stock, and we have no plan to pay any cash dividends in the foreseeable future. We currently intend to retain any future earnings to finance our operations and future growth. In addition, the terms of our senior credit agreement, which we entered into in July 2014, place restrictions on our ability to pay cash dividends on our common stock.

Issuer Purchases of Equity Securities. On November 26, 2008, our Board of Directors authorized a program to repurchase up to one million shares of our common stock. The repurchase program is funded using our existing cash, cash equivalents, marketable securities, and future cash flows. Under the repurchase program, at management's discretion, we may repurchase shares on the open market from time to time, in privately negotiated transactions or block transactions, or through an accelerated repurchase agreement. The timing of such repurchases depends on availability of shares, price, market conditions, alternative uses of capital, and applicable regulatory requirements. The program may be modified, suspended, or terminated at any time without prior notice. The repurchase program has no expiration date. There were no other repurchase programs outstanding during the year ended December 31, 2016, and no repurchase programs expired during the period.

We did not repurchase any shares of our common stock in open market transactions during the years ended December 31, 2016, 2015, and 2014.

During the year ended December 31, 2016, 32,361 vested restricted shares were surrendered in satisfaction of tax withholding obligations at an average price of $9.63 per share. There were no shares repurchased in satisfaction of tax withholding obligations during the fourth quarter ended December 31, 2016.

Table of Contents

STOCK PERFORMANCE GRAPH

The following graph compares the performance of our cumulative stockholder return with that of the NASDAQ Composite Index, a broad equity market index, and the NASDAQ Telecommunications Index, a published industry index. The cumulative stockholder returns for shares of our common stock and for the market indices are calculated assuming $100 was invested on December 30, 2011. We paid no cash dividends during the periods shown. The performance of the market indices is shown on a total return (dividends reinvested) basis. Measurement points are the last trading days of the years ended December 2012, 2013, 2014, 2015, and 2016.

	2011	2012	2013	2014	2015	2016
KVH Industries, Inc.	$100	$180	$167	$163	$121	$152
NASDAQ Composite	100	116	160	182	192	207
NASDAQ Telecommunications	100	102	127	138	127	146

ITEM 6. Selected Financial Data

We have derived the following selected financial data from our audited consolidated financial statements. You should read this data in conjunction with “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Item 8. Financial Statements and Supplementary Data.”

In May 2013, we acquired Headland Media Limited (now known as the KVH Media Group) for $24.2 million. In July 2014, we acquired Videotel for $47.4 million. See Note 1 to our consolidated financial statements for a summary of significant accounting policies and the effects on the year-to-year comparability of the selected financial data.

Table of Contents

	Year Ended December 31,				
	2016	2015	2014	2013	2012
	(in thousands, except per share data)				
Consolidated Statement of Operations Data:					
Sales:					
Product	$73,075	$76,213	$81,143	$90,295	$90,677
Service	103,047	108,421	91,448	71,993	46,435
Net sales	176,122	184,634	172,591	162,288	137,112
Costs and expenses:					
Costs of product sales	46,334	47,404	48,843	51,518	51,775
Costs of service sales	52,966	54,816	50,301	45,058	30,363
Research and development	16,030	14,039	14,101	12,987	12,147
Sales, marketing and support	33,942	35,714	32,976	28,792	24,069
General and administrative	28,172	29,453	24,448	17,764	12,188
Total costs and expenses	177,444	181,426	170,669	156,119	130,542
(Loss) income from operations	(1,322)	3,208	1,922	6,169	6,570
Interest income	513	546	738	657	510
Interest expense	1,436	1,460	1,296	637	323
Other income (expense), net	275	372	(39)	494	86
(Loss) income before income taxes	(1,970)	2,666	1,325	6,683	6,843
Income tax expense	5,547	413	1,284	2,150	3,263
Net (loss) income	$(7,517)	$2,253	$41	$4,533	$3,580
Per share information:					
Net (loss) income per common share, basic	$(0.47)	$0.14	$0.00	$0.30	$0.24
Net (loss) income per common share, diluted	$(0.47)	$0.14	$0.00	$0.30	$0.24
Number of shares used in per share calculation:					
Basic	15,834	15,625	15,420	15,144	14,777
Diluted	15,834	15,834	15,605	15,341	15,019

	December 31,				
	2016	2015	2014	2013	2012
	(in thousands)				
Consolidated Balance Sheet Data:					
Cash, cash equivalents, and marketable securities	$52,134	$45,338	$49,802	$55,744	$38,285
Working capital	69,189	71,534	65,200	78,933	65,242
Total assets	199,757	226,277	235,837	183,849	137,568
Line of credit	—	—	—	30,000	7,000
Long-term debt, excluding current portion	50,153	58,054	64,687	7,094	3,414
Other long-term obligations	326	1,391	1,459	204	140
Total stockholders' equity	106,502	118,176	116,540	116,467	105,704

Table of Contents

ITEM 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis should be read in conjunction with the other financial information and consolidated financial statements and related notes appearing elsewhere in this annual report. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of a variety of factors, including those discussed under the heading "Item 1A. Risk Factors" and elsewhere in this annual 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 commercial and defense markets. In the fourth quarter of 2016, consistent with certain internal organizational changes implemented, we changed our reporting structure from two operating segments based on geographies selling navigation, guidance and stabilization and mobile communication products, to two operating segments based on product lines: mobile connectivity and inertial navigation. The change was driven by several factors including:

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

Mobile Connectivity Segment

Our mobile connectivity segment offers satellite communications products and services. Our mobile connectivity products enable customers to receive voice and Internet services and live digital television via satellite services in marine vessels, recreational vehicles, buses and automobiles. Our CommBox offers a range of tools designed to increase communication efficiency, reduce costs, and manage network operations. We sell and lease our mobile connectivity products through an extensive international network of dealers and distributors. We also sell and lease products directly to end users.

Our mobile connectivity service sales include sales of satellite voice and Internet airtime services, engineering services provided under development contracts, sales from product repairs, and extended warranty sales. Our mobile connectivity service sales also include our distribution of entertainment, including news, sports, music, and movies, to commercial and leisure customers in the maritime, hotel, and retail markets through KVH Media Group, as well as the distribution of training films and eLearning computer-based training courses to commercial customers in the maritime market through our Videotel business. We typically recognize revenue from media content sales ratably over the period of the service contract. We provide, for monthly fixed and usage fees, satellite connectivity services for broadband Internet, data and Voice over Internet Protocol (VoIP) service to our TracPhone V-series customers. We also earn monthly usage fees for third-party satellite connectivity for voice, data and Internet services to our Inmarsat and Iridium customers who choose to activate their subscriptions with us. Our service sales have grown as a percentage of total revenue from 53% of our net sales in 2014 to 59% in both 2015 and 2016, a portion of which is attributable to our acquisition of the KVH Media Group business in May 2013 and Videotel in July 2014. The majority of Videotel's services are invoiced in pounds sterling, which increases our exposure to fluctuations in exchange rates.

Inertial Navigation Segment

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

Our inertial navigation service sales include engineering services provided under development contracts, product repairs and extended warranty sales. In October 2014, we entered into a $19.0 million TACNAV product and services contract with an international military customer. This contract includes program management and engineering services expected to be delivered through 2018, hardware shipments that were fulfilled in 2015 and 2016, and out-year support services.

Table of Contents

The following table provides, for the periods indicated, our sales by segment:

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Mobile connectivity	$141,507	$147,809	$129,819
Inertial navigation	34,615	36,825	42,772
Net sales	$176,122	$184,634	$172,591

Product sales within the mobile connectivity segment accounted for approximately 23%, 23% and 25% of our consolidated net sales for 2016, 2015 and 2014, respectively. Sales of mini-VSAT Broadband airtime service accounted for approximately 37%, 35%, and 35% of our consolidated net sales for 2016, 2015, 2014, respectively. Sales of content and training sales within the mobile connectivity segment accounted for approximately 20%, 21% and 14% of our consolidated net sales for 2016, 2015 and 2014, respectively.

Within our inertial navigation segment, net sales of FOG-based guidance and navigation systems accounted for approximately 10%, 10%, and 12% of our consolidated net sales for 2016, 2015, and 2014, respectively, and sales of tactical guidance and navigation systems accounted for approximately 8%, 8%, and 11% of our consolidated net sales for 2016, 2015, and 2014, respectively.

No other single product class accounts for 10% or more of consolidated net sales. No individual customer accounted for 10% or more of our consolidated net sales for 2016, 2015 or 2014.

We operate in a number of major geographic areas across the globe. We generate our international net sales, based upon customer location, primarily from customers located in Canada, Europe, Africa, Asia/Pacific, the Middle East, and India. Our international net sales totaled 63%, 67% and 58% of our consolidated net sales for 2016, 2015 and 2014, respectively. Sales to customers located in Canada represented 11% and 10% of net sales for the years ended December 31, 2016 and 2015, respectively. No other individual foreign country represented 10% or more of the Company’s consolidated net sales for 2016 or 2015, respectively. No individual foreign country represented 10% or more of the Company's consolidated net sales for 2014. See Note 13 to our consolidated financial statements for more information on our segments.

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

	Year ended December 31,		
	2016	2015	2014
	(in thousands)		
Research and development expense presented on the statement of operations	$16,030	$14,039	$14,101
Costs of customer-funded research and development included in costs of service sales	498	1,546	2,633
Total consolidated statements of operations expenditures on research and development activities	$16,528	$15,585	$16,734

36

Table of Contents

Results of Operations

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

	Year Ended December 31,		
	2016	2015	2014
Sales:			
Product	41.5 %	41.3 %	47.0 %
Service	58.5	58.7	53.0
Net sales	100.0	100.0	100.0
Costs and expenses:			
Costs of product sales	26.3	25.7	28.3
Costs of service sales	30.1	29.6	29.1
Research and development	9.1	7.6	8.2
Sales, marketing and support	19.3	19.3	19.1
General and administrative	16.0	16.0	14.2
Total costs and expenses	100.8	98.2	98.9
(Loss) income from operations	(0.8)	1.8	1.1
Interest income	0.3	0.3	0.4
Interest expense	0.8	0.7	0.8
Other income, net	0.2	0.2	—
Income before income taxes	(1.1)	1.6	0.7
Income tax expense	3.1	0.2	0.7
Net (loss) income	(4.2)%	1.4 %	— %

Years ended December 31, 2016 and 2015

Net Sales

As discussed further under the heading "Segment Discussion" below, product sales decreased $3.1 million, or 4%, to $73.1 million in 2016 from $76.2 million in 2015, due to a decrease in mobile connectivity product sales of $2.2 million and a decrease in inertial navigation product sales of $0.9 million. Service sales for 2016 decreased $5.4 million to $103.0 million from $108.4 million for 2015 due to a decrease in mobile connectivity service sales of $4.0 million and a decrease in inertial navigation service sales of $1.4 million or 35%.

Costs of Sales

Costs of sales consists of costs of product sales and costs of service sales. Costs of sales decreased in 2016 to approximately $99.3 million from $102.2 million in 2015. The reduction in costs of sales was driven by a decrease in overall sales. As a percentage of net sales, costs of sales was approximately 56% and 55% for 2016 and 2015, respectively. The slightly higher percentage of costs of sales compared to total net sales in 2016 was driven by a slight increase in the percentage of costs of product sales compared to product sales.

Our costs of product sales consist primarily of materials, manufacturing overhead, and direct labor used to produce our products. For 2016, costs of product sales decreased by $1.1 million, or 2% to $46.3 million in 2016 from $47.4 million in 2015. As a percentage of product sales, costs of product sales were approximately 63% and 62% for 2016 and 2015, respectively. The increase in the percentage of costs of product sales compared to product sales was due to increases in product and freight costs, an increase in wage and benefit expenses due to a slight increase in headcount, as well as lower overhead absorption due to lower manufacturing volumes driven by lower product sales. Mobile connectivity costs of product sales decreased by $1.0 million, or 3%, primarily due to a $1.4 million decrease in our marine mobile connectivity costs of product sales, partially offset by a $0.4 million increase in our land mobile costs

of product sales. Mobile connectivity costs of product sales as a percentage of mobile connectivity product sales were 74% and 72% for 2016 and 2015, respectively. The increase was principally driven by lower marine product sales which are higher margin products. Inertial navigation costs of product sales decreased by $0.1 million, or 1%, primarily due to a $0.9 million decrease in our FOG costs of product sales, offset by a $0.8 million increase in our TACNAV

Table of Contents

costs of product sales. Inertial navigation costs of product sales as a percentage of inertial navigation product sales was 50% and 49% for 2016 and 2015, respectively. The increase was primarily driven by product mix.

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 2016, costs of service sales decreased by $1.9 million, or 3%, to $53.0 million in 2016 from $54.8 million in 2015. As a percentage of service sales, costs of service sales were approximately 51% and 51% for 2016 and 2015, respectively. Mobile connectivity costs of service sales decreased by $0.8 million, or 2%, primarily due to a $1.2 million decrease in airtime costs due to airtime cost-saving initiatives, partially offset by a $0.4 million increase in airtime services and repairs costs of service sales due to an increase in installations. Mobile connectivity costs of service sales as a percentage of mobile connectivity service sales was 52% and 51% for 2016 and 2015, respectively. Inertial navigation costs of service sales decreased by $1.1 million, or 68%, due to the decrease in contract engineering services. Inertial navigation costs of service sales as a percentage of inertial navigation service sales was 21% and 41% for 2016 and 2015, respectively. The decrease in the inertial navigation costs of service sales as a percentage of inertial navigation service sales was primarily due to the differences in the relative material and labor components needed for the different contract engineering services projects completed in the two periods.

We expect that our costs of sales will increase in correlation with our expected growth in our mobile connectivity and inertial navigation net sales. We expect that the mobile connectivity costs of service sales as percentage of mobile connectivity sales will decrease slightly as we are seeking to implement additional airtime cost-saving initiatives.

Operating Expenses

Research and development expense consists of direct labor, materials, external consultants, and related overhead costs that support our internally funded product development and product sustaining engineering activities. Research and development expense for 2016 increased by $2.0 million, or 14%, to $16.0 million from $14.0 million in 2015. The primary reasons for the increase in expense in 2016 were a $1.2 million increase in labor expenses and outside consulting fees, an increase of $0.5 million in expensed materials, and a $0.1 million increase in tooling and set-up charges. The primary reason for the increase in research and development expense is an increase in overall expenditures for new initiatives, as well as a decrease in the level of customer-funded engineering projects where the support costs are included in costs of service sales. As a percentage of net sales, research and development expense was 9% and 8% in 2016 and 2015, respectively.

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

Sales, marketing, and support expense consists primarily of salaries and related expenses for sales and marketing personnel, commissions for both in-house and third-party representatives, costs related to the co-development of certain content, other sales and marketing support costs such as advertising, literature and promotional materials, product service personnel and support costs, warranty-related costs and bad debt expense. Sales, marketing and support expense also includes the operating expenses of our sales office subsidiaries in Denmark, Singapore, Brazil, and Japan. Sales, marketing, and support expense for 2016 decreased by $1.8 million, or 5%, to $33.9 million from $35.7 million for 2015. The primary reasons for the decrease in 2016 were a $1.9 million decrease in commissions due to lower sales and a $0.3 million decrease in bad debt expense due to improved collection efforts, partially offset by a $0.3 million increase in warranty expense primarily related to an increase in the number of our mobile connectivity products under warranty. As a percentage of net sales, sales, marketing and support expense was 19% in both 2016 and 2015.

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

General and administrative expense consists of costs attributable to management, finance and accounting, information technology, human resources, certain outside professional services, and other administrative costs. General and administrative expense for 2016 decreased by $1.3 million, or 4%, to $28.2 million from $29.5 million for 2015. The primary reasons for the decrease in 2016 expense were a $1.5 million decrease in compensation and consulting expense primarily due to the decrease in executive bonuses and profit sharing, as well as a decrease in expenses arising from the centralization of administrative functions in the UK and a $0.4 million decrease in legal settlement expense due to settlement of patent infringement matters where settlement was accrued in 2015, partially offset by a $0.5 million increase in computer maintenance for new software subscriptions and software support as a result of additional purchased software and related maintenance. As a percentage of net sales, general and administrative expense was 16% for both 2016 and 2015.

Table of Contents

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

Interest and Other Expense (Income), Net

Interest income was $0.5 million for both 2016 and 2015 and relates to interest earned on our cash and cash equivalents, as well as from investments. Interest expense for 2016 decreased slightly by $0.1 million, or 7%, to $1.4 million from $1.5 million for 2015 due to a reduction in our overall debt obligations. Other income, net for 2016 decreased by $0.1 million or 25%, to $0.3 million from $0.4 million for 2015 primarily due to foreign exchange transaction losses as a result of the fluctuation of the pounds sterling.

Income Tax Expense

Income tax expense for 2016 was $5.5 million as compared to $0.4 million for 2015. The significant increase in income tax expense for 2016 was principally due to a change in the valuation allowance of our deferred tax assets of approximately $6.8 million. We assessed evidence of the realizability of our deferred tax assets as of December 31, 2016 and, based on the three-year cumulative pre-tax loss as of December 31, 2016, we concluded that it was more likely than not that certain of our deferred tax assets were not realizable and recorded a full valuation allowance against these deferred tax assets. This is the key driver of the difference between our effective tax rate as compared to the United States federal statutory rate. This impact was partially offset by the impact of foreign tax rates and research and development tax credits. The effective income tax rate of approximately 16% for 2015 differs from the United States federal statutory rate of 35% principally as a result of the impact of foreign tax rates, research and development tax credits and reduction in uncertain tax positions as a result of settlements with taxing authorities partially offset by changes in the valuation allowance against our deferred tax assets.

Segment Discussion - Years ended December 31, 2016 and 2015

Our net sales by segment for 2016 and 2015 were as follows:

	For the year ended December 31,		Change 2016 vs. 2015	
	2016	2015	$	%
	(dollars in thousands)			
Mobile connectivity sales				
Product	$40,904	$43,169	$(2,265)	(5)%
Service	100,603	104,640	(4,037)	(4)%
Net sales	$141,507	$147,809	$(6,302)	(4)%
Inertial navigation sales				
Product	$32,171	$33,044	$(873)	(3)%
Service	2,444	3,781	(1,337)	(35)%
Net sales	$34,615	$36,825	$(2,210)	(6)%

Table of Contents

Operating earnings (loss) by segment for 2016 and 2015 were as follows:

	For the year ended December 31,		Change 2016 vs. 2015	
	2016	2015	$	%
	(dollars in thousands)			
Mobile connectivity	$10,041	$9,459	$582	6 %
Inertial navigation	5,272	7,934	(2,662)	(34)%
	$15,313	$17,393	$(2,080)	(12)%
Unallocated	(16,635)	(14,185)	(2,450)	17 %
Operating (loss) earnings	$(1,322)	$3,208	$(4,530)	(141)%

Mobile Connectivity Segment

Net sales in the mobile connectivity segment decreased approximately $6.3 million, or 4%, in 2016 as compared to 2015. Mobile connectivity product sales decreased by $2.3 million, or 5%, to $40.9 million in 2016 from $43.2 million in 2015. The decrease was primarily due to a $2.6 million, or 21%, decrease in European mini-VSAT product sales due to a slowdown in the European maritime markets and a $0.3 million, or 1%, decrease in our US marine mobile connectivity product sales, partially offset by a $0.6 million increase in sales of our land mobile connectivity products. Mobile connectivity service sales decreased by $4.0 million, or 4%, to $100.6 million in 2016 from $104.6 million in 2015. The decrease was primarily due to a $3.6 million decrease in our content and training service revenue, which resulted primarily from exchange rate weakness arising from content and training service sales recorded in pounds sterling, and a $0.7 million decrease in Inmarsat service sales due to a 14% decrease in Inmarsat airtime customers. Partially offsetting these decreases was a $0.3 million increase in mini-VSAT service sales driven by an increase in the number of installed mini-VSAT units, as well as an increase in number of service offerings.

We expect that our mini-VSAT service sales will continue to grow year-over-year, primarily through the continued expansion of our mini-VSAT Broadband customer base, and due to a new product offering, subscription service model, which would allow customers the option to receive mini-VSAT Broadband airtime and hardware for a single monthly charge. Additionally, the continued recovery of the oil and gas market is expected to benefit product and airtime service revenues in 2017. We also expect to see value-added service sales such as IP-MobileCast, which had significant growth in 2016, to increase in 2017 as we continue to sell to both new and existing customers. We expect that mini-VSAT product sales may decline if customers select the new subscription service model.

Operating earnings for the mobile connectivity segment increased approximately $0.6 million, or 6%, in 2016 as compared to 2015. This change was principally due to a decrease in operating costs related to the centralization of certain administrative functions in the UK, a decrease in the exchange rate of the pounds sterling and airtime cost savings initiatives. The increase in operating expenses was partially offset by the decrease in product and service sales.

We expect our overall mobile connectivity operating earnings to show modest growth in 2017 through market expansion and as existing customers expand their mini-VSAT Broadband usage and as customers take advantage of the new subscription service option. We also anticipate that we will improve our service margins to the extent that customers adopt our mini-VSAT Broadband rate plans that provide customers with faster speeds with data caps. Additionally, we intend to seek to improve margins by lowering costs through increased network volume and lower-cost network capacity.

Inertial Navigation Segment

Net sales in the inertial navigation segment decreased approximately $2.2 million, or 6%, in 2016 as compared to 2015. Inertial navigation product sales decreased $0.9 million, or 3%, to $32.2 million in 2016 from $33.1 million in 2015.

Specifically, sales of our FOG products decreased $1.2 million, or 7%, partially offset by a $0.3 million, or 2%, increase in TACNAV sales. TACNAV sales increased due to large but anticipated orders that were in our backlog. FOG product sales decreased due to a decrease in sales of our single and dual axis FOG units, partially offset by increased sales of our IMU FOG units. Inertial navigation service sales decreased $1.4 million, or 35%, to $2.4 million in 2016 from $3.8 million for 2015. The primary reason for the decrease was a $1.6 million, or 53%, decrease in contracted engineering services due to a prior year

Table of Contents

project which was completed during the first half of 2016. This decrease was partially offset by a $0.3 million increase in inertial navigation repair revenue.

We expect that TACNAV product sales will continue to see growth in 2017 compared with 2016; however, it is challenging to forecast the specific timing that orders will be received and delivered to the customer. Our current forecast is based on our expectation that these sales will be weighted towards the second half of 2017, and we anticipate that product sales on a quarter-to-quarter basis may be very uneven. Additionally, we expect to see modest growth in our FOG products in 2017 as these products are incorporated into additional commercial applications and programs. We also expect to see modest growth in contracted engineering services year-over-year.

Operating earnings for the inertial navigation segment decreased approximately $2.7 million, or approximately 34%, in 2016 as compared to 2015. This decrease is primarily due to the $2.2 million decrease in product and service sales and a $0.6 million decrease in sales representative commissions due to these lower sales. Partially offsetting this decrease is a slight increase in costs of product sales as a percentage of product sales.

We expect our overall inertial navigation operating earnings to decline in 2017 due to lower contracted engineering service revenue, which often generates higher margins than other inertial navigation revenue. Similar to inertial navigation net sales noted above, operating earnings are expected to be uneven during 2017 as a result of the specific timing of orders.

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 was approximately $16.6 million and $14.2 million for 2016 and 2015, respectively. The increase in the operating loss was primarily the result of a $1.4 million increase in salary and benefits due to an increase in corporate headcount partially offset by a decrease in executive bonuses, a $0.5 million increase in outside consulting that includes accounting and legal fees, and a $0.5 million increase in computer maintenance fees due to new internal analytical software subscription and support.

Years ended December 31, 2015 and 2014

Net Sales

As discussed further under the heading, "Segment Discussion" below, product sales decreased $4.9 million, or 6%, to $76.2 million in 2015 from $81.1 million in 2014, a decrease in inertial navigation product sales of $5.2 million, which was partially offset by an increase in mobile connectivity product sales of $0.3 million. Service sales for 2015 increased $17.0 million to $108.4 million from $91.4 million for 2014, due to an increase in mobile connectivity service sales of $17.7 million, which was partially offset by a decrease in inertial navigation service sales of $0.7 million.

Costs of Sales

Costs of sales increased in 2015 to $102.2 million, from $99.1 million in 2014 primarily due to an increase in costs of service sales. As a percentage of net sales, costs of sales were 55% and 57% for 2015 and 2014, respectively.

For 2015, costs of product sales decreased by $1.4 million, or 3%, to $47.4 million from $48.8 million in 2014. Inertial navigation costs of product sales decreased by $2.2 million, or 12%, primarily due to a $2.9 million decrease in our TACNAV costs of product sales as a result of lower sales, which was partially offset by a $0.7 million increase in our FOG costs of product sales due to slightly higher sales. Inertial navigation costs of product sales as a percentage of inertial navigation product sales were 49% and 48% for 2015 and 2014, respectively. Mobile connectivity costs of product sales increased by $0.8 million, or 2%, primarily due to a $0.5 million increase in our marine mobile connectivity costs of product sales and $0.3 million increase in our land mobile costs of product sales. Mobile connectivity costs of product sales as a percentage of mobile connectivity product sales were 72% and 71% for 2015 and 2014, respectively.

For 2015, costs of service sales increased by $4.5 million, or 9%, to $54.8 million in 2015 from $50.3 million in 2014. Mobile connectivity costs of service sales increased by $5.6 million, primarily due to a $2.6 million increase in new e-Learning maritime safety media costs of service sales resulting from the Videotel acquisition in July 2014, a $2.4 million increase in airtime cost of service sales for our mini-VSAT Broadband service, and $0.4 million increase in costs of service sales for our

Table of Contents

other media and entertainment services. These increases were partially offset by a $0.3 million decrease in Inmarsat costs of service. Mobile connectivity costs of service sales as a percentage of mobile connectivity service sales were 51% and 55% for 2015 and 2014, respectively. Inertial navigation costs of service sales decreased by $1.1 million, due to a reduction in contract engineering services in connection with the SANG contract as discussed below in the inertial navigation segment discussion. Inertial navigation costs of service sales as a percentage of inertial navigation service sales were 41% and 60% for 2015 and 2014, respectively.

Operating Expenses

Research and development expense for 2015 decreased by $0.1 million, or 1%, to $14.0 million from $14.1 million in 2014. The primary reasons for the decrease in expense in 2015 were a $0.7 million decrease in external engineering expenses and a $0.6 million decrease in material costs related to 2014 development efforts for our marine TV product line, partially offset by a $1.1 million increase in U.S.-based employee compensation for research and development personnel due to an increase in headcount. As a percentage of net sales, research and development expense was 8% in both 2015 and 2014.

Sales, marketing and support expense for 2015 increased by $2.7 million, or 8%, to $35.7 million from $33.0 million for 2014. The primary reasons for the increase in 2015 were a $2.6 million increase in sales, marketing, and support expense related to our new Videotel business acquired on July 1, 2014, a $0.7 million increase from our KVH Media business due to increased growth, and a $0.4 million increase in U.S.-based employee compensation due to increase in headcount to support increased sales activities. Offsetting this increase was a $1.2 million decrease in external commissions due to the decrease in product sales. As a percentage of net sales, sales, marketing and support expense was 19% for both 2015 and 2014.

General and administrative expense for 2015 increased by $5.1 million, or 21%, to $29.5 million from $24.4 million for 2014. The primary reasons for the increase in 2015 expense were a $5.4 million increase in expense from our new Videotel business, a $0.6 million increase in U.S.-based employee compensation, and a $0.6 million increase in outside consulting and audit-related fees. Partially offsetting this increase was a $1.2 million decrease in Videotel transaction-related expenses incurred in connection with the acquisition in 2014. As a percentage of net sales, general and administrative expense for 2015 was 16% as compared to 14% for 2014.

Interest and Other Expense (Income), Net

Interest income decreased $0.2 million, or 29%, to $0.5 million for 2015 from $0.7 million for 2014 and relates to interest earnings on our cash and cash equivalents, as well as investments. Interest expense for 2015 increased by $0.2 million, or 15%, to $1.5 million from $1.3 million for 2014 due to the increase in outstanding debt obligations principally driven by the additional borrowings under our senior credit facility executed in July 2014 to finance the purchase of Videotel in July 2014. Other income, net for 2015 increased by $0.4 million to other income, net of $0.4 million from other expense, net of less than $0.1 million for 2014. The primary reason for the increase in other income, net was foreign currency exchange gains primarily associated with our UK and Hong Kong operations

Income Tax Expense

Income tax expense for 2015 was $0.4 million as compared to income tax expense of $1.3 million for 2014. The decrease in income tax expense is primarily due to discrete tax benefits in 2015, partially offset by a $1.4 million increase in pretax income. The effective income tax rate of approximately 16% for 2015 differs from the United States federal statutory rate of 35% principally as a result of the impact of foreign tax rates, research and development tax credits and reduction in uncertain tax positions as a result of settlements with taxing authorities partially offset by changes in the valuation allowance against our deferred tax assets. The effective income tax rate of

approximately 96.9% for 2014 differs from the United States federal statutory rate of 35% principally as a result of changes in the valuation allowance against our deferred tax assets partially offset by the impact of foreign tax rates and research and development tax credits.

Table of Contents

Segment Discussion - Years ended December 31, 2015 and 2014

Our net sales by segment for 2015 and 2014 were as follows:

	For the year ended December 31,		Change 2015 vs. 2014	
	2015	2014	$	%
	(dollars in thousands)			
Mobile connectivity sales				
Product	$43,169	$42,885	$284	1 %
Service	104,641	86,934	17,707	20 %
Net sales	$147,810	$129,819	$17,991	14 %
Inertial navigation sales				
Product	$33,044	$38,258	$(5,214)	(14)%
Service	3,781	4,514	(733)	(16)%
Net sales	$36,825	$42,772	$(5,947)	(14)%

Operating earnings (loss) by segment for 2015 and 2014 were as follows:

	For the year ended December 31,		Change 2015 vs. 2014	
	2015	2014	$	%
	(dollars in thousands)			
Mobile connectivity	$9,459	$5,056	$4,403	87 %
Inertial navigation	$7,934	$10,431	(2,497)	(24)%
	$17,393	$15,487	$1,906	12 %
Unallocated	(14,185)	(13,565)	(620)	5 %
Operating earnings	3,208	1,922	$1,286	67 %

Mobile Connectivity Segment

Net sales in the mobile connectivity segment increased $18.0 million, or 14%, in 2015 as compared to 2014. Mobile connectivity product sales increased $0.3 million, or 1%, to $43.2 million in 2015 from $42.9 million in 2014. The increase was primarily due to increases in sales of our marine mobile connectivity products of $0.4 million, or 1%, and sales of our land mobile connectivity products of $0.4 million, or 11%, partially offset by a $0.5 million, or 3%, decrease in shipments of our TracPhone mini-VSAT products. Mobile connectivity service sales increased $17.7 million, or 20%, to $104.6 million in 2015 from $86.9 million in 2014. The primary reasons for the increase were a $12.8 million increase in new service e-Learning and maritime safety training sales and a $4.0 million increase in airtime sales for our mini-VSAT Broadband service due to an increase in the installed customer base.

Operating earnings for the mobile connectivity segment increased approximately $4.4 million, or 87%, in 2015 as compared to 2014 primarily due to the increase in the new e-Learning and maritime safety training sales arising from our acquisition of Videotel in July 2014.

Table of Contents

Inertial Navigation Segment

Net sales in the inertial navigation segment decreased approximately $5.9 million, or 14%, in 2015 as compared to 2014. Inertial navigation product sales decreased $5.2 million, or 14%, to $33.0 million in 2015 from $38.3 million in 2014. Specifically, sales of our TACNAV products decreased $3.6 million, or 20%, primarily as a result of the timing of our customer contracts. Also contributing to the overall decrease was a decrease in sales of our FOG products of $1.5 million, or 8%, primarily a result of decreased shipments for commercial applications. Inertial navigation service sales decreased $0.7 million, or 16%, to $3.8 million in 2015 from $4.5 million for 2014, primarily due to a decrease in contracted engineering services driven by a decrease in installation and program management services provided in connection with the SANG contract.

Operating earnings for the inertial navigation segment decreased approximately $2.5 million, or 24%, in 2015 as compared to 2014. This decrease is primarily due to the $5.9 million decrease in product and service sales coupled with a slight increase in cost of product sales as a percentage of product sales which were partially offset by a decrease in sales commissions of $0.7 million due to the lower sales.

Unallocated

Unallocated operating loss was approximately $14.2 million and $13.6 million for 2015 and 2014, respectively. The increase in the operating loss was primarily the result of a $0.6 million increase in employee compensation including bonus, employee profit share and wages.

Critical Accounting Policies and Significant Estimates

The discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets and liabilities, revenues and expenses, and related disclosure at the date of our financial statements. Our significant accounting policies are summarized in Note 1 to our consolidated financial statements. The significant accounting policies that we believe are the most critical in understanding and evaluating our reported financial results include the following:

Revenue Recognition

Product sales. Product sales are recognized when persuasive evidence of an arrangement exists, goods are shipped, title has passed, and collectability is reasonably assured. Our standard sales terms require that:

- All sales are final;
- Terms are generally Net 30;
- Shipments are tendered and shipped FOB (or as may be applicable, FCA or EXW) our plant or warehouse; and
- Title and risk of loss or damage passes to the dealer or distributor at the point of shipment when delivery is made to the possession of the carrier.

For certain inertial navigation product sales, customer acceptance or inspection may be required before title and risk of loss transfers to the customer. For those sales, revenue is recognized after transfer of title and risk of loss and after notification of customer acceptance. In certain circumstances customers may request a bill and hold arrangement. Under these bill and hold arrangements, revenue is recognized when we have fulfilled all of our performance obligations, the units are segregated and available for shipment in accordance with the defined contract delivery schedule, and we have received notification of customer acceptance which transfers title and risk of loss to the customer.

Under certain limited conditions, we, at our sole discretion, provide for the return of goods. No product is accepted for return and no credit is allowed on any returned product unless we have granted and confirmed prior written permission by means of appropriate authorization. We establish reserves for potential sales returns, credits and allowances, and evaluate, on a monthly basis, the adequacy of those reserves based upon historical experience and our

expectations for the future.

Table of Contents

Multiple-element revenue arrangements. Some of our sales involve multiple-element arrangements that include both hardware-related products and contracted service, or satellite connectivity. We analyze revenue arrangements with multiple deliverables to determine if the deliverables should be divided into more than one unit of accounting. For contracts with more than one unit of accounting, we allocate the consideration we receive among the separate units of accounting based on a selling price hierarchy for determining the selling price of each deliverable, which includes: (1) vendor-specific objective evidence (VSOE) if available; (2) third-party evidence (TPE) if VSOE is not available; and (3) best estimated selling price (BESP), if neither VSOE nor TPE is available. Best estimate selling price is determined based on prices of the deliverables if sold on a stand-alone basis, or if not sold on a stand-alone basis, the prices we would charge if sold on a stand-alone basis. We recognize revenue for each deliverable based on the revenue recognition policies described in this section.

We accounted for our $35.6 million contract received in June 2012 from SANG to purchase TACNAV defense products and services as a multiple-element arrangement. The total contract value associated with TACNAV defense products was $21.2 million, for which the final shipments were completed in the second quarter of 2013. The total contract value associated with all services was $14.4 million, and such services were completed in the third quarter of 2014. In October 2014, we entered into a $19.0 million TACNAV product and services contract with an international military customer. This contract includes program management and engineering services expected to be delivered through 2017 and hardware shipments that were fulfilled in 2015 and 2016, and out-year support services. The revenue for these services is recognized using the proportional performance accounting method. Total revenue recognized in 2016, 2015, and 2014 related to this order was $7.6 million, $9.6 million, and $1.1 million, respectively.

Contracted service sales. We also engage in contracts for development, production and services activities related to standard product modification or enhancement, which we account for using the proportional performance method of revenue recognition. The use of contract accounting requires significant judgment relative to estimating total contract revenues and costs, including assumptions relative to the length of time to complete the contract, the nature and complexity of the work to be performed, and prices for subcontractor services and materials. Our estimates are based upon the professional knowledge and experience of our engineers, program managers and other personnel, who review each long-term contract monthly to assess the contract's schedule, performance, technical matters, and estimated cost at completion. A cancellation, schedule delay, or modification of a fixed-price contract which is accounted for using the proportional performance method may adversely affect our gross margins for the period in which the contract is modified. Changes in estimates are applied when adjustments in estimated contract costs are identified, such revisions may result in current period adjustments to earnings applicable to performance in prior periods.

Satellite connectivity and media content sales. Directly sold and re-sold satellite connectivity service for voice, data and Internet is recognized monthly based upon minutes or megabytes of traffic processed or contracted fixed fee schedules. Typically, all subscribers enter into a contracted one-year minimum service agreement. We have evaluated the factors within ASC 605 regarding gross versus net revenue reporting for its satellite connectivity service sales and our payments to the applicable service providers. Based on the evaluation of the factors within ASC 605, we have determined that the applicable indicators of gross revenue reporting were met. The applicable indicators of gross revenue reporting included, but were not limited to, the following:

- We are the primary obligor in its arrangements with its subscribers. We manage all interactions with the subscribers, while satellite connectivity service providers do not interact with the subscribers. In addition, we assume the entire performance risk under its arrangements with the subscribers and in the event of a performance issue, we may incur reduction in fees without regard for any recourse that we may have with the applicable satellite connective service providers.
- We have latitude in establishing pricing, as the pricing under its arrangements with the subscribers is negotiated through a contracting process and has discretion on establishing pricing. We then separately negotiated the fees with the applicable satellite service providers.
- We have had complete discretion in determining which satellite service providers it will contract with.

As a result, we have determined that we earn revenue (as a principal) from the delivery of satellite connectivity services to its subscribers and record all satellite connectivity service sales to subscribers as gross sales. All associated

regulatory service fees and costs are recorded net in our consolidated financial statements. Media content sales include our distribution of commercially licensed news, sports, movies and music content for commercial and leisure customers in the maritime, hotel, and retail markets as well as training videos to the merchant marine market that are typically based on a contracted fixed fee schedule. We typically recognize revenue from media content sales ratably over the period of the service contract. The accounting estimates related to the recognition of satellite connectivity and media content service sales in our results of operations require us to make assumptions about future billing adjustments for disputes with subscribers as well as unauthorized usage.

Table of Contents

Accounts Receivable Allowance

Our estimate of allowance for doubtful accounts related to trade receivables is primarily based on specific and historical criteria. We evaluate specific accounts where we have information that the customer may have an inability to meet its financial obligations. We make judgments, based on facts and circumstances, regarding the need to record a specific reserve for that customer against amounts owed to reduce the receivable to the amount that we expect to collect. We also provide for a reserve based on an aging analysis of our accounts receivable. We evaluate these reserves on a monthly basis and adjust them as we receive additional information that impacts the amount reserved. If circumstances change, we could change our estimates of the recoverability of amounts owed to us by a material amount. Our bad debt expense decreased by $0.5 million in 2016 from 2015, driven by improved collections efforts. We wrote off $0.9 million, $0.5 million, and $0.6 million of our accounts receivable in 2016, 2015, and 2014, respectively. These write-offs were driven largely by the financial deterioration of several airtime and lease customers as well as several mobile connectivity product distributors. The current economic downturn could continue to adversely impact the financial condition of our customers, which could result in additional write-offs and increases in our allowance for doubtful accounts and have a negative impact on our results of operations.

Inventories

Inventory is valued at the lower of cost or market. We generally must order components for our products and build inventory in advance of product shipments. We regularly review current quantities on hand, actual and projected sales volumes and anticipated selling prices on products and write down, as appropriate, slow-moving and/or obsolete inventory to its net realizable value. In 2016, 2015, and 2014, we wrote off $0.2 million, $0.3 million, and $0.2 million of inventory, respectively, that were previously deemed excess or obsolete inventory and whose carrying values had previously been reduced to zero. However, if we overestimate projected sales or anticipated selling prices, our inventory might be overstocked or overvalued, and we would have to reduce our inventory valuation accordingly.

Accounting for Income Taxes

As part of the process of preparing our financial statements, we are required to estimate our provision for income taxes in each of the jurisdictions in which we operate. This involves estimating our actual current tax exposure, including assessing the risks associated with tax audits, together with assessing temporary differences resulting from the different treatment of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities. We assess the likelihood that our deferred tax assets will be recovered from future taxable income and record a valuation allowance to reduce the deferred tax assets to an amount that, in our judgment, is more likely than not to be recovered.

Management judgment is required in determining our provision for income taxes, our deferred tax assets and liabilities, and any valuation allowance recorded against our deferred tax assets. The valuation allowance is based on our estimates of future taxable income and the period over which we expect the deferred tax assets to be recovered. Our assessment of future taxable income is based on historical experience and current and anticipated market and economic conditions and trends. In the event that actual results differ from these estimates or we adjust our estimates in the future, we may need to adjust our valuation allowance, which could materially impact our consolidated financial position and results of operations. As a result of negative evidence, principally three years of cumulative pre-tax operating losses as of December 31, 2016, we concluded that it was more likely than not that certain of our deferred tax assets were not realizable and therefore, recorded a full valuation allowance of $6.8 million against these deferred tax assets as of December 31, 2016. At December 31, 2016, we had valuation allowances of $11.6 million to offset gross deferred tax assets of $13.7 million.

Warranty Provision

We typically offer standard limited warranties that range from one to two years and vary by product. We provide for the estimated cost of product warranties at the time product revenue is recognized. Factors that affect our warranty reserves include the number of units sold, historical and anticipated rates of warranty repairs and the cost per repair. While we engage in extensive product quality programs and processes, including actively monitoring and evaluating the quality of our component suppliers, our estimated warranty obligation is affected by ongoing product failure rates, specific product class failures outside our baseline experience, material usage and service delivery costs incurred in correcting a product failure. If actual product failure rates, material usage or service delivery costs differ from our

estimates, revisions to the estimated warranty liability would be required. For example, our warranty expense increased $0.3 million in 2016 from 2015, driven primarily by a change in our standard warranty from two years for parts and one year for labor to two years for both parts and labor associated with our mobile connectivity products.

Table of Contents

Assumptions and historical warranty experience are evaluated to determine the appropriateness of such assumptions. We assess the adequacy of the warranty provision on a quarterly basis and we adjust this provision when necessary.

Stock-Based Compensation

Our stock-based compensation cost is measured at the grant date based on the fair value of the award and is recognized as expense over the requisite service period, which is generally the vesting period.

We use the Black-Scholes valuation model for estimating the fair value on the date of grant of compensatory stock options. Determining the fair value of stock option awards at the grant date requires judgment regarding certain valuation assumptions, including the volatility of our stock price, expected term of the option, risk-free interest rate and expected dividends. Changes in these assumptions and estimates could result in different fair values and could therefore impact our earnings. These changes would not impact our cash flows. The fair value of restricted stock awards is based upon our stock price on the grant date.

The amount of stock-based compensation expense recorded in any period for unvested awards requires estimates of the amount of stock-based awards that are expected to be forfeited prior to vesting. As of January 1, 2017, we adopted ASC Update No. 2016-09, Compensation-Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting. As a result of this adoption, commencing on January 1, 2017 prospectively, we have elected to account for forfeitures as they occur which could result in a significant reversal of previously recognized stock-based compensation expense.

Compensation costs for awards subject only to service conditions that vest ratably are recognized on a straight-line basis over the requisite service period for the entire award. We have no awards that are subject to performance or market conditions as of December 31, 2016.

Goodwill, Intangible Assets, and other Long-Lived Assets

Goodwill is tested at least annually for impairment. If an event occurs or circumstances change that indicate that the carrying value may not be recoverable, we will perform an interim test at that time. The impairment test begins by allocating goodwill to its reporting unit. Goodwill is then tested using a two-step process that begins with an estimation of the fair value of the reporting unit using an income approach, which looks to the present value of expected future cash flows. The impairment test is performed through the application of a two-step process. The first step is a screen for potential impairment by comparing the carrying value of our reporting units to their estimated fair values as of the test date. The estimated cash flows are calculated using an income approach. If fair value is less than carrying value, a second step is performed to quantify the amount of the impairment, if any. Considerable judgment is required to estimate discounted future operating cash flows. Judgment is also required in determining whether an event has occurred that may impair the value of goodwill or identifiable intangible or other long-lived assets. Factors that could indicate an impairment may exist include significant underperformance relative to plan or long-term projections, changes in business strategy, significant negative industry or economic trends, a significant change in circumstances relative to a large customer, a significant decline in our stock price for a sustained period and a decline in our market capitalization to below net book value. We must make assumptions about future cash flows, future operating plans, discount rates and other factors in our models and valuation reports. To the extent these future projections and estimates change, the estimated amounts of impairment could differ from current estimates. Our annual testing for impairment of goodwill is completed as of August 31 of each year.

To date, we have not had to complete the second step of the goodwill impairment test. As of August 31, 2016, we performed our annual impairment test for goodwill at the reporting unit level, and after conducting the first step, it was determined that no goodwill impairment existed as the fair value of our reporting units exceeded their carrying value. We utilized both an income approach and market approaches to estimate the fair value of our reporting units. We believe that our assumptions used to estimate the fair value of our reporting units were reasonable. As an additional corroborative test of the reasonableness of those assumptions, we completed a reconciliation of our market capitalization and overall enterprise value to the fair value of all of our reporting units as of August 31, 2016. If different assumptions were used, particularly with respect to estimating future cash flows, weighted average costs of capital, and terminal growth rates, different estimates of fair value may have resulted. However, based on the excess of fair value over carrying value and additional sensitivity analysis considered with respect to our valuation assumptions, we concluded it was more-likely-than-not that no goodwill impairment exists. As of August 31, 2016,

the Company notes that the fair value of all of the Company's reporting units exceeded their carrying values by more than 10%. We noted that the one reporting unit where the fair value exceeded the carrying value by less than 100% had goodwill of approximately $4.4 million at both August 31, 2016 and December 31, 2016. A negative trend of operating results or material changes to forecasted operating results could result in the requirement for additional interim goodwill impairment tests and the potential of a future goodwill impairment charge, which could be material. We did not identify any impairment indicators that required an interim goodwill impairment test as of December 31, 2016.

Table of Contents

Intangible assets with estimated lives and other long-lived assets are reviewed for impairment when events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of intangible assets with estimated lives and other long-lived assets is measured by comparing the carrying amount of the asset to future net undiscounted cash flows expected to be generated by the asset. If these comparisons indicate that an asset is not recoverable, we will recognize an impairment loss for the amount by which the carrying value of the asset exceeds the related estimated fair value. Estimated fair value is based on either discounted future operating cash flows or appraised values, depending on the nature of the asset.

During the fourth quarter of 2016, we commenced certain facility and other operational improvements. As a result, we completed a review of impairment of other long-lived assets for the associated asset groups and a review of the estimated remaining useful lives under ASC 360-10, Impairment and Disposal of Long-Lived Assets, ("ASC 360-10"). Based on the impairment analysis under ASC 360-10, no impairment was noted. We did identify certain changes in the remaining estimated useful lives of certain property and equipment and certain components of internally-developed software acquired in our acquisition of Videotel. The impact of these changes in estimated useful lives resulted in approximately $0.4 million and $0.2 million of additional depreciation and amortization expense, respectively, in the fourth quarter of 2016. We noted that these changes in estimated useful lives are not expected to have a material impact to our future results from operations.

Contingencies

We are subject to ongoing business risks arising in the ordinary course of business. See Item 3. Legal Proceedings, for more information regarding litigation matters. An estimated loss contingency is accrued when it is probable that a liability has been incurred or an asset has been impaired and the amount of loss can be reasonably estimated. We regularly evaluate current information available to determine whether such amounts should be adjusted and record changes in estimates in the period they become known. We reserve for legal contingencies and legal fees when the amounts are probable and reasonably estimable. During 2016, we had settled a legal claim for a cash payment by us. The cash payment was included in accrued other in our consolidated balance sheet at December 31, 2015. The cash payment was made in January 2016.

Liquidity and Capital Resources

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

We believe that our cash and cash equivalents as of December 31, 2016, our estimated cash flows from operations, and borrowings available under our credit agreement will be sufficient to fund our operations, anticipated capital expenditures, and debt repayment obligations through at least the next twelve months based on our current operating plans.

We believe that our primary long-term capital requirements relate to servicing and repaying our indebtedness and our satellite service capacity and equipment lease obligations. At December 31, 2016, we had outstanding debt obligations with a principal balance of $58.1 million and had outstanding non-cancellable satellite service capacity and other lease obligations with future minimum payments of $29.3 million.

Our ability to make payments on our indebtedness and satellite service capacity and equipment lease obligations, as well as our ability to fund planned capital expenditures, will depend on our ability to generate cash in the future. Our ability to generate cash in the future will be dependent upon, among other things, the performance of our operating segments and general economic, financial, competitive, legislative, regulatory and other factors that are beyond our control.

As of December 31, 2016, we had $52.1 million in cash, cash equivalents, and marketable securities, of which $12.5 million in cash equivalents were held in local currencies by our foreign subsidiaries. There were no marketable securities held by our foreign subsidiaries as of December 31, 2016. As of December 31, 2016, we had $69.2 million in working capital.

Operating Activities

Net cash provided by operations for 2016 was $18.7 million as compared to net cash provided by operations of $8.4 million for 2015. The $10.3 million increase is primarily due to a $16.5 million increase in cash inflows related to accounts receivable, a $4.6 million decrease in cash outflows related to inventory, a $3.5 million net increase in non-cash items, a $3.1 million increase in cash inflows related to deferred revenue, a $2.6 million decrease in cash outflows related to accounts payable, and a $1.2 million decrease in cash outflows related to prepaid expenses and other assets. Partially offsetting the increase in cash inflows were a $9.8 million shift from net income to net loss, a $6.7 million increase in cash outflows related to accrued expenses, a $3.9 million increase in cash outflows related to other non-current assets, and a $0.8 million increase in cash outflows related to other long term liabilities.

Table of Contents

Net cash provided by operations for 2015 was $8.4 million as compared to $10.4 million for 2014. The $2.0 million decrease is primarily due to a $5.1 million increase in cash outflows related to accounts payable, a $4.6 million increase in cash outflows related to inventory, a $3.3 million decrease in cash inflows related to deferred revenue, and a $2.7 million increase in cash outflows related to prepaid expenses and other current assets. Partially offsetting the increase in cash outflows were a $4.2 million net increase in non-cash items, a $4.0 million decrease in cash outflows related to accrued expenses, a $2.4 million increase in cash inflows related to accounts receivable, a $2.2 million increase in net income and a $1.0 million decrease in cash outflows related to other non-current assets.

Investing Activities

Net cash used in investing activities for 2016 was $8.7 million as compared to net cash used in investing activities of $3.8 million for 2015. The $4.9 million increase in cash used in investing activities was principally driven by an increase in available-for-sale marketable securities purchases of $1.9 million and a decrease in available-for-sale marketable securities maturities or sales of $3.1 million, resulting in an overall increase in available-for-sale marketable securities held as of December 31, 2016. The net cash used in investing activities of $8.7 million for 2016 was principally comprised of $5.6 million of capital expenditures and a net increase in available-for-sale marketable securities held of $3.1 million. We expect capital expenditures to increase for 2017 as a result of certain of our key strategic initiatives with capital expenditures expected to be in the range of $15.0 million to $20.0 million in 2017.

Net cash used in investing activities for 2015 was $3.8 million as compared to net cash used in investing activities of $26.7 million for 2014. The $22.9 million decrease in cash outflows is primarily due to the net cash paid for the acquisition of Videotel of $43.5 million in 2014, which was partially offset by a $20.0 million decrease in cash outflows related to our net investment in marketable securities in 2015. The net cash used in investing activities of $3.8 million for 2015 was principally comprised of $5.7 million of cash used for capital expenditures and a net decrease in available-for-sale securities held of $1.9 million.

Financing Activities

Net cash used in financing activities for 2016 was $4.4 million as compared to $6.3 million for 2015. Net cash used in financing activities primarily consists of repayments of our term loan we undertook in connection with the acquisition of Videotel in July 2014 and other long-term debt as well as the payment of employee withholdings on stock-based awards. Proceeds from stock purchases under our equity incentive plans increased by $2.2 million from 2015 to 2016.

Net cash used in financing activities for 2015 was $6.3 million as compared to net cash provided by financing activities of $32.7 million for 2014. The $39.0 million decrease in cash provided by financing activities is primarily due to the fact that, in 2014, we received proceeds from borrowings on a term note, net of payments, in the amount of $63.8 million in 2014. These proceeds were offset in 2014 by a $30.0 million repayment of borrowings under a line of credit in connection with the debt restructuring we undertook in connection with the acquisition of Videotel. The decrease in cash provided by financing activities also resulted from a $3.7 million increase in repayments of term note borrowings and a $0.2 million decrease in proceeds from exercises of stock options and purchases under our employee stock purchase plan.

Borrowing Arrangements

Principal Credit Facility

As of December 31, 2016, there was $53.6 million in aggregate principal amount outstanding under our principal credit facility. On July 1, 2014, we entered into a five-year senior credit agreement with Bank of America, N.A., as administrative agent, and the lenders named from time to time as parties thereto, for an aggregate amount of up to $80.0 million, including a revolving credit facility of up to $15.0 million and a term loan of $65.0 million to be used for general corporate purposes, including both the refinancing of the $30.0 million of indebtedness then outstanding under our former credit facility and permitted acquisitions. We also entered into a security agreement with respect to our grant of a security interest in substantially all of our assets in order to secure our obligations under the credit agreement and the related notes and pledge agreements with respect to our grant of a security interest in 65% of the capital stock of each of KVH Industries A/S and KVH Industries U.K. Limited held by us in order to secure our obligations under the credit agreement and the notes. We amended the credit agreement in June 2015 to modify the circumstances under which certain changes in our Board of Directors would constitute a change of control. We further amended the credit agreement in September 2015 to modify the Maximum Consolidated Leverage Ratio as of

September 30, 2015, as described below. In addition, we amended the credit agreement again in March 2017 to further modify the Maximum Consolidated Leverage Ratio, to amend the Applicable Rate and amortization schedule of the term loan and to modify the definition of Consolidated Fixed Charges, as well as make certain other changes, as described below.

Table of Contents

We executed $65.0 million in term notes on July 1, 2014 in connection with our acquisition of Videotel. We applied proceeds in the amount of $35.0 million toward the payment of a portion of the purchase price for Videotel, and we applied proceeds in the amount of $30.0 million toward the refinancing of the then-outstanding balance under our former credit facility. We were required to make principal repayments on the term loan in the amount of approximately $1.2 million at the end of each of the first eight three-month periods following the closing; thereafter, were required to make principal repayments in the amount of approximately $1.6 million for each succeeding three-month period until the maturity of the loan on July 1, 2019. We had made all required principal repayments on a timely basis. In connection with the amendment to the credit agreement entered into in March 2017, we made a principal repayment of $6.0 million on the term loan and amended the repayment terms. Under the amended terms, we must make principal repayments of $575,000 every three months starting on April 1, 2017 until the maturity of the loan on July 1, 2019. On the maturity date, the entire remaining principal balance of the loan, including any future loans under the revolver, is due and payable, together with all accrued and unpaid interest, penalties and other amounts due and payable under the credit agreement. The credit agreement contains provisions requiring the mandatory prepayment of amounts outstanding under the term loan and the revolver under specified circumstances, including (i) 100% of the net cash proceeds from certain dispositions to the extent not reinvested in our business within a stated period, (ii) 50% of the net cash proceeds from stated equity issuances and (iii) 100% of the net cash proceeds from certain receipts of more than $250,000 outside the ordinary course of business. The prepayments are first applied to the term loan, in inverse order of maturity, and then to the revolver. In the discretion of the administrative agent, certain mandatory prepayments made on the revolver can permanently reduce the amount of credit available under the revolver.

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

Borrowings under the revolver are subject to the satisfaction of numerous conditions precedent at the time of each borrowing, including the continued accuracy of our representations and warranties and the absence of any default under the credit agreement. As of December 31, 2016, there were no borrowings outstanding under the revolver.

The credit agreement contains two financial covenants, a Maximum Consolidated Leverage Ratio and a Minimum Consolidated Fixed Charge Coverage Ratio, each as defined in the credit agreement. In September 2015, the Maximum Consolidated Leverage Ratio was increased from 1.00:1.00 to 1.75:1.00 for September 30, 2015, 1.50:1.00 for December 31, 2015, and 1.25:1.00 for March 31, 2016 and each fiscal quarter thereafter. The Minimum Consolidated Fixed Charge Coverage Ratio may not be less than 1.25:1.00. We were in compliance with these financial ratio debt covenants as of December 31, 2016. As a result of the March 2017 amendment, the Maximum Consolidated Leverage Ratio was increased to 1.50:1.00. In addition, the definition of the Consolidated Fixed Charge Coverage Ratio was amended to include only maintenance capital expenditures as defined. We expect to be in compliance with the amended financial covenants for the foreseeable future.

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

Our obligation to repay loans under the credit agreement could be accelerated upon a default or event of default under the terms of the credit agreement, including certain failures to pay principal or interest when due, certain breaches of

representations and warranties, the failure to comply with our affirmative and negative covenants under the credit agreement, a change of control, certain defaults in payment relating to other indebtedness, the acceleration of payment of certain other indebtedness, certain events relating to our liquidation, dissolution, bankruptcy, insolvency or receivership, the entry of certain judgments against us, certain events relating to the impairment of collateral or the lenders' security interest therein, and any other material adverse change with respect to us.

Mortgage Loan

On April 6, 2009, we entered into a mortgage loan in the amount of $4.0 million related to our headquarters facility in Middletown, Rhode Island. On June 9, 2011, we entered into an amendment to the mortgage loan. The loan term is ten years, with a principal amortization of 20 years, and the interest rate will be a rate per year adjusted periodically based on a defined

Table of Contents

interest period equal to the BBA LIBOR Rate plus 2.00 percentage points. Land, building and improvements with an approximate carrying value of approximately $5.0 million as of December 31, 2016 secure the mortgage loan. The monthly mortgage payment is approximately $14,000, plus interest and increases in increments of $1,000 each year throughout the life of the mortgage. Due to the difference in the term of the loan and amortization of the principal, a balloon payment of $2.6 million is due on April 1, 2019. The loan contains one financial covenant, a Fixed Charge Coverage Ratio, which applies in the event that our consolidated cash, cash equivalents, and marketable securities balance falls below $25.0 million at any time. As our consolidated cash, cash equivalents, and marketable securities balance was above $25.0 million throughout 2016, the Fixed Charge Coverage Ratio did not apply. Under the mortgage loan we may prepay our outstanding loan balance subject to certain early termination charges as defined in the mortgage loan agreement. If we were to default on our mortgage loan, the land, building and improvements would be used as collateral. As discussed in Note 16 to the consolidated financial statements, effective April 1, 2010, in order to reduce the volatility of cash outflows that arise from changes in interest rates, we entered into two interest rate swap agreements that are intended to hedge our mortgage interest obligations by fixing the interest rates specified in the mortgage loan to 5.9% for half of the principal amount outstanding and 6.1% for the remaining half of the principal amount outstanding as of April 1, 2010 until the mortgage loan expires on April 16, 2019.

Other Matters

It is our intent to continue to invest in the mini-VSAT Broadband network on a global basis as necessary to support anticipated future capacity demand. As part of any future potential capacity expansion, we may need 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. We plan to continue to invest in certain initiatives that we believe will position us for revenue growth in 2018 and beyond. These initiatives include enhancing our mini-VSAT Broadband network with new high throughput satellite capacity, offering customers a new product offering, subscription service model, which would allow customers the option to receive mini-VSAT Broadband airtime and hardware for a single monthly charge, developing a low cost FOG for use in autonomous vehicles, and enhancing TACNAV product features.

On January 30, 2013, we borrowed $4.7 million from a bank and pledged as collateral six satellite hubs and related equipment. The term of the equipment loan is five years, and the loan bears interest at a fixed rate of 2.76% per annum. The monthly payment is approximately $83,000, including interest expense. On December 30, 2013, we borrowed $1.2 million from a bank and pledged as collateral one satellite hub and related equipment. The term of the equipment loan is five years, and the loan bears interest at a fixed rate of 3.08% per annum. The monthly payment is approximately $21,000, including interest expense.

On November 26, 2008, our Board of Directors authorized a program to repurchase up to one million shares of our common stock. The share repurchase program is funded using our existing cash, cash equivalents, marketable securities and future cash flows. As of December 31, 2016, 341,009 shares of our common stock remain available for repurchase under the program. We did not purchase any shares of our common stock in 2016.

As of December 31, 2016, we held $52.1 million in cash, cash equivalents, and marketable securities. We believe that our cash, cash equivalents, and marketable securities, together with our other existing working capital and cash flows from operations, will be adequate to meet planned operating and capital requirements through at least the next twelve months. However, as the need or opportunity arises, we may seek to raise additional capital through public or private sales of securities or through additional debt financing. There are no assurances that we will be able to obtain any additional funding or that such funding will be available on terms acceptable to us.

Contractual Obligations and Other Commercial Commitments

As of December 31, 2016, our contractual commitments consisted of satellite service capacity, near-term purchase commitments, term notes payable, a mortgage note payable, equipment notes payable, and equipment and facility leases. Our purchase commitments include unconditional purchase orders for inventory, manufacturing materials and fixed assets extending out over various periods throughout 2017. We are also obligated under satellite service capacity leases and multi-year facility leases that terminate at various times between 2017 and 2025.

Table of Contents

The following table summarizes our obligations under these commitments, excluding interest, at December 31, 2016:

	Payment Due by Period				
Contractual Obligations	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
	(in thousands)				
Term notes payable	$53,625	$6,500	$47,125	$ —	$ —
Satellite service capacity and related equipment lease obligations	27,158	13,196	12,590	1,372	—
Inventory, materials, and fixed asset purchase commitments	14,818	14,818	—	—	—
Mortgage notes payable	2,951	172	2,779	—	—
Equipment notes payable	1,477	1,228	249	—	—
Facility lease obligations	2,172	608	928	388	248
Total	$102,201	$36,522	$63,671	$ 1,760	$ 248

The above table does not include our obligations related to certain interest rate swap derivative financial instruments that we entered into in April 2010 to reduce the volatility of cash flows that arise from change in interest rates in order to hedge our mortgage loan related to our corporate headquarters by fixing the interest rates specified in the mortgage loan to 5.9% for 50% of the principal outstanding and 6.1% for the remaining principal outstanding. These derivative financial instruments mature on April 1, 2019 and as of December 31, 2016, we had a liability of $0.2 million recorded related to the fair value of these derivative financial instruments.

The above table also does not reflect our liabilities associated with uncertain tax positions recorded under FIN 48 (codified primarily in ASC 740, Income Taxes) totaling $1.3 million. Due to the complexity associated with tax uncertainties, we cannot reasonably make a reliable estimate of the period in which we expect to settle these liabilities. See Note 8 to our consolidated financial statements contained in Item 15 of this Annual Report for more information on our unrecognized tax benefits.

We did not have any other off-balance sheet commitments, guarantees, or standby repurchase obligations as of December 31, 2016.

Recently Issued Accounting Pronouncements

See Note 1 of our accompanying audited consolidated financial statements for a description of recently issued accounting pronouncements including the dates of adoption and effects on our results of operations, financial position and disclosures.

ITEM 7A. Quantitative and Qualitative Disclosure About Market Risk

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

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

We had $53.6 million in borrowings outstanding at December 31, 2016, at an interest rate equal to the LIBOR Daily Floating Rate plus 1.50% under our variable-rate credit facility. For more information regarding our credit facility, see Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations - Borrowing Arrangements. A hypothetical 10% increase or decrease in interest rates would have an approximately $0.1 million impact on our annual interest expense, based on the $53.6 million outstanding at December 31, 2016 with an interest rate of 2.18%.

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

We are exposed to currency exchange rate fluctuations related to our subsidiary operations in the United Kingdom, Denmark, Norway, Brazil, Singapore, Hong Kong, Cyprus, Japan, Belgium, and the Netherlands. Certain transactions in these locations are made in the local currency, yet are reported in the U.S. dollar, the functional currency. For

foreign currency

Table of Contents

exposures existing at December 31, 2016, a 10% unfavorable movement in the foreign exchange rates for our subsidiary locations would not expose us to material losses in earnings or cash flows.

In the past, we have purchased foreign currency forward contracts. These forward contracts are intended to offset the impact of exchange rate fluctuations on cash flows of our foreign subsidiaries. Foreign exchange contracts are accounted for as cash flow hedges and are recorded on the balance sheet at fair value until executed. Changes in the fair value are recognized in earnings. We did not enter into any such contracts during 2014, 2015, or 2016. We do not currently anticipate that we will enter into new agreements to replace the settled contracts.

The primary objective of our investment activities is to preserve principal and maintain liquidity, while at the same time maximizing income. We have not entered into any instruments for trading purposes. Some of the securities that we invest in may have market risk. To minimize this risk, we maintain our portfolio of cash equivalents and short-term investments in a variety of securities that can include United States treasuries, certificates of deposit, investment grade asset-backed corporate securities, money market mutual funds, municipal bonds, and government agency and non-government debt securities. As of December 31, 2016, a hypothetical 100 basis-point increase in interest rates would have resulted in an immaterial decrease in the fair value of our investments that had maturities of greater than one year. Due to the conservative nature of our investments and the relatively short duration of their maturities, we believe this interest rate risk is substantially mitigated. As of December 31, 2016, all of the $25.7 million classified as available-for-sale marketable securities will mature or reset within one year. Accordingly, long-term interest rate risk is not considered material for our investment activities. We did not invest in any financial instruments denominated in foreign currencies as of December 31, 2016.

ITEM 8. Financial Statements and Supplementary Data

Our consolidated financial statements and supplementary data, together with the reports of Grant Thornton LLP, our independent registered public accounting firm, are included in Part IV of this annual report.

ITEM 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Table of Contents

ITEM 9A. 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 December 31, 2016, the end of the period covered by this annual report. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of December 31, 2016.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is the process designed by and under the supervision of our Chief Executive Officer and Chief Financial Officer to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of our financial statements for external reporting in accordance with accounting principles generally accepted in the United States of America. Management has evaluated the effectiveness of our internal control over financial reporting using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework (2013).

Under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, our management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2016 and concluded that it was effective.

Our independent registered public accounting firm, Grant Thornton LLP, has issued a report regarding the effectiveness of our internal control over financial reporting as of December 31, 2016, and that report is included in Item 9A in this annual report.

Evaluation of 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 fourth quarter of 2016. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer did not identify any change in our internal control over financial reporting 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.

54

Table of Contents

Report of Independent Registered Public Accounting Firm
Board of Directors and Stockholders
KVH Industries, Inc.

We have audited the internal control over financial reporting of KVH Industries, Inc. and subsidiaries (the "Company") as of December 31, 2016, based on criteria established in the 2013 Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting ("Management's Report"). Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.
In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in the 2013 Internal Control-Integrated Framework issued by COSO.
We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements of the Company as of and for the year ended December 31, 2016, and our report dated March 9, 2017, which expressed an unqualified opinion on those financial statements.

/s/ Grant Thornton LLP

Boston, Massachusetts
March 9, 2017

ITEM 9B. Other Information

None.

55

Table of Contents

PART III

We have omitted the information required in Part III of this annual report because we intend to include that information in our definitive proxy statement for our 2017 annual meeting of stockholders, which we expect to file before 120 days after the end of fiscal 2016. We incorporate the information required in Part III of this annual report by reference to our 2017 proxy statement.

ITEM 10. Directors, Executive Officers and Corporate Governance

Except as set forth below, the information required by this item is incorporated by reference to our 2017 proxy statement.

Our Board of Directors has adopted a Code of Business Conduct and Ethics that applies to our directors, executive officers and employees. Our Code of Business Conduct and Ethics can be found on our website, which is located at www.kvh.com. We intend to make all required disclosures concerning any amendments to or waivers from, our Code of Business Conduct and Ethics on our website. Any person may request a copy of the Code of Business Conduct and Ethics, at no cost, by writing to us at the following address: KVH Industries, Inc., 50 Enterprise Center, Middletown, Rhode Island, 02842, Attention: Investor Relations.

ITEM 11. Executive Compensation

The information required by this item is incorporated by reference to our 2017 proxy statement.

ITEM 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item is incorporated by reference to our 2017 proxy statement.

ITEM 13. Certain Relationships and Related Transactions and Director Independence

The information required by this item is incorporated by reference to our 2017 proxy statement.

ITEM 14. Principal Accountant Fees and Services

The information required by this item is incorporated by reference to our 2017 proxy statement.

Table of Contents

PART IV

ITEM 15. Exhibits and Financial Statement Schedules

	Page
(a) 1. Financial Statements	
Report of Independent Registered Public Accounting Firm	61
Consolidated Balance Sheets as of December 31, 2016 and 2015	62
Consolidated Statements of Operations for the years ended December 31, 2016, 2015 and 2014	63
Consolidated Statements of Comprehensive Loss for the years ended December 31, 2016, 2015 and 2014	63
Consolidated Statements of Stockholders' Equity for the years ended December 31, 2016, 2015, and 2014	65
Consolidated Statements of Cash Flows for the years ended December 31, 2016, 2015 and 2014	66
Notes to Consolidated Financial Statements	67

(a) 2. Financial Statement Schedules

None.

3. Exhibits

Exhibit No.	Description	Filed with this Form 10-K	Incorporated by Reference		
			Form	Filing Date	Exhibit No.
2.1	Share Purchase Agreement, dated as of July 2, 2014, by and between KVH Media Group Limited and Nigel Cleave		8-K	July 3, 2014	2.1
3.1	Amended and Restated Certificate of Incorporation, as amended		10-Q	August 6, 2010	3.1
3.2	Amended and Restated Bylaws of KVH Industries, Inc.		8-K	April 30, 2014	3.1
4.1	Specimen certificate for the common stock		S-1/A	March 22, 1996	4.1
*10.1	Second Amended and Restated 2003 Incentive and Nonqualified Stock Option Plan		10-Q	May 6, 2009	10.21
*10.2	Fourth Amended and Restated 2006 Stock Incentive Plan		DEF 14A	April 25, 2013	App. A
*10.3	2016 Equity and Incentive Plan		DEF 14A	April 25, 2016	App. A
*10.4	Amended and Restated 1996 Employee Stock Purchase Plan		DEF 14A	April 25, 2016	App. B
*10.5	Form of Incentive Stock Option Agreement granted under the 2016 Equity and Incentive Plan	X			
*10.6	Form of Non-Statutory Stock Option Agreement granted under the 2016 Equity and Incentive Plan	X			
*10.7		X			

	Form of Restricted Stock Agreement granted under the 2016 Equity and Incentive Plan			
*10.8	Policy Regarding Automatic Grants to Non-Employee Directors	10-Q	May 6, 2009	10.23
10.9	Loan Agreement dated April 6, 2009 by and among KVH Industries, Inc., and Bank of America, N.A.	8-K	April 8, 2009	10.1

Table of Contents

Exhibit No.	Description	Filed with this Form 10-K	Incorporated by Reference		
			Form	Filing Date	Exhibit No.
10.10	Second Amendment, dated June 9, 2011 by and between KVH Industries, Inc. and Bank of America, N.A., amending the Loan Agreement, dated April 6, 2009, as amended		8-K	June 14, 2011	10.2
10.11	Master Loan and Security Agreement, dated as of January 30, 2013 by and between KVH Industries, Inc. and Banc of America Leasing & Capital, LLC		8-K	February 5, 2013	10.1
10.12	Equipment Security Note, dated as of January 30, 2013 by and between KVH Industries, Inc. and Banc of America Leasing & Capital, LLC		8-K	February 5, 2013	10.2
10.13	Credit Agreement, dated as of July 1, 2014, by and between Bank of America, N.A., The Washington Trust Company and KVH Industries, Inc.		8-K	July 3, 2014	10.1
10.14	Term Notes, dated as of July 1, 2014, by and between KVH Industries, Inc. and each of Bank of America, N.A. and The Washington Trust Company		8-K	July 3, 2014	10.2
10.15	Revolving Credit Notes, dated as of July 1, 2014, by and between KVH Industries, Inc. and each of Bank of America, N.A. and The Washington Trust Company		8-K	July 3, 2014	10.3
10.16	Security Agreement, dated as of July 1, 2014, by and between Bank of America, N.A. and KVH Industries, Inc.		8-K	July 3, 2014	10.4
10.17	Pledge Agreements, dated as of July 1, 2014, by and between Bank of America, N.A. and KVH Industries, Inc. with respect to KVH Industries A/S and KVH Industries U.K. Limited		8-K	July 3, 2014	10.5
10.18	First Amendment to Credit Agreement, dated as of June 15, 2015, by and among Bank of America, N.A., The Washington Trust Company and KVH Industries, Inc.		10-Q/A	August 13, 2015	10.1
10.19	Second Amendment to Credit Agreement, dated as of September 30, 2015, by and among Bank of America, N.A., The Washington Trust Company and KVH Industries, Inc.		8-K	October 5, 2015	10.1
10.20	Third Amendment to Credit Agreement, dated as of March 7, 2017, by and among Bank of America, N.A., The Washington Trust Company and KVH Industries, Inc.		8-K	March 9, 2017	10.1
21.1	List of Subsidiaries	X			
23.1	Consent of Grant Thornton LLP	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	Rule 1350 certification	X			

Table of Contents

101.1	Interactive Data File regarding (a) our Consolidated Balance Sheets as of December 31, 2016 and 2015, (b) our Consolidated Statements of Operations for the years ended December 31, 2016, 2015, and 2014, (c) our Consolidated Statements of Comprehensive Loss for the years ended December 31, 2016, 2015, and 2014, (d) our Consolidated Statements of Stockholders' Equity for the years ended December 31, 2016, 2015, and 2014, (e) our Consolidated Statements of Cash Flows for the years ended December 31, 2016, 2015, and 2014 and (e) the Notes to such Consolidated Financial Statements	X

*Management contract or compensatory plan.

Table of Contents

ITEM 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or Section 15(d) 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.

KVH Industries, Inc.

Date: March 9, 2017 By: /S/ MARTIN A. KITS VAN HEYNINGEN
Martin A. Kits van Heyningen
President, Chief Executive Officer and Chairman of the Board

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons in the capacities and on the dates indicated.

Name	Title	Date
/S/ MARTIN A. KITS VAN HEYNINGEN Martin A. Kits van Heyningen	President, Chief Executive Officer and Chairman of the Board (Principal Executive Officer)	March 9, 2017
/S/ DONALD W. REILLY Donald W. Reilly	Chief Financial Officer (Principal Financial and Accounting Officer)	March 9, 2017
/S/ MARK S. AIN Mark S. Ain	Director	March 9, 2017
/S/ STANLEY K. HONEY Stanley K. Honey	Director	March 9, 2017
/S/ BRUCE J. RYAN Bruce J. Ryan	Director	March 9, 2017
/S/ CHARLES R. TRIMBLE Charles R. Trimble	Director	March 9, 2017

Table of Contents

of Independent Registered Public Accounting Firm
Board of Directors and Stockholders
KVH Industries, Inc.

We have audited the accompanying consolidated balance sheets of KVH Industries, Inc. and subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2016. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of KVH Industries, Inc. and subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016 in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company's internal control over financial reporting as of December 31, 2016, based on criteria established in the 2013 Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated March 9, 2017 expressed an unqualified opinion.

/s/ Grant Thornton LLP
Boston, Massachusetts
March 9, 2017

Table of Contents

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

	December 31,	
	2016	2015
ASSETS		
Current assets:		
Cash and cash equivalents	$26,422	$22,719
Marketable securities	25,712	22,619
Accounts receivable, net of allowance for doubtful accounts of $3,477 as of December 31, 2016 and $3,534 as of December 31, 2015	31,152	43,895
Inventories	20,745	21,589
Prepaid expenses and other current assets	4,801	4,271
Total current assets	108,832	115,093
Property and equipment, less accumulated depreciation of $45,766 as of December 31, 2016 and $43,202 as of December 31, 2015	36,586	39,900
Intangible assets, less accumulated amortization of $16,344 as of December 31, 2016 and $11,390 as of December 31, 2015	17,838	26,755
Goodwill	31,343	36,747
Other non-current assets	5,134	3,096
Non-current deferred income tax asset	24	4,686
Total assets	$199,757	$226,277
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$8,436	$8,975
Accrued compensation and employee-related expenses	4,766	6,588
Accrued other	8,317	12,042
Accrued product warranty costs	2,280	1,880
Deferred revenue	6,661	5,962
Current portion of long-term debt	7,900	6,638
Liability for uncertain tax positions	1,283	1,474
Total current liabilities	39,643	43,559
Other long-term liabilities	326	1,391
Long-term debt, excluding current portion	50,153	58,054
Non-current deferred income tax liability	3,133	5,097
Total liabilities	$93,255	$108,101
Commitments and contingencies (Notes 1, 5, 6, 16 and 17)		
Stockholders' equity:		
Preferred stock, $0.01 par value. Authorized 1,000,000 shares; none issued	—	—
Common stock, $0.01 par value. Authorized 30,000,000 shares, 18,420,914 and 17,336,314 shares issued; 16,761,923 and 15,677,323 shares outstanding at December 31, 2016 and December 31, 2015, respectively	184	173
Additional paid-in capital	129,660	124,619
Accumulated earnings	6,617	14,134
Accumulated other comprehensive loss	(16,809)	(7,600)
	119,652	131,326
Less: treasury stock at cost, common stock, 1,658,991 shares as of December 31, 2016 and December 31, 2015, respectively	(13,150)	(13,150)
Total stockholders' equity	106,502	118,176

Total liabilities and stockholders' equity	$199,757	$226,277

See accompanying Notes to Consolidated Financial Statements.

Table of Contents

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

	Year Ended December 31,		
	2016	2015	2014
Sales:			
Product	$73,075	$76,213	$81,143
Service	103,047	108,421	91,448
Net sales	176,122	184,634	172,591
Costs and expenses:			
Costs of product sales	46,334	47,404	48,843
Costs of service sales	52,966	54,816	50,301
Research and development	16,030	14,039	14,101
Sales, marketing and support	33,942	35,714	32,976
General and administrative	28,172	29,453	24,448
Total costs and expenses	177,444	181,426	170,669
(Loss) income from operations	(1,322)	3,208	1,922
Interest income	513	546	738
Interest expense	1,436	1,460	1,296
Other income (expense), net	275	372	(39)
(Loss) income before income tax expense	(1,970)	2,666	1,325
Income tax expense	5,547	413	1,284
Net (loss) income	$(7,517)	$2,253	$41
Per share information:			
Net (loss) income per share, basic	$(0.47)	$0.14	$0.00
Net (loss) income per share, diluted	$(0.47)	$0.14	$0.00
Number of shares used in per share calculation:			
Basic	15,834	15,625	15,420
Diluted	15,834	15,834	15,605

See accompanying Notes to Consolidated Financial Statements.

Table of Contents

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

	Year Ended December 31,		
	2016	2015	2014
Net (loss) income	$(7,517)	$2,253	$41
Other comprehensive (loss) income, net of tax:			
Unrealized (loss) gain on marketable securities	(1)	(3)	8
Foreign currency translation adjustment	(9,288)	(4,207)	(3,953)
Unrealized gain on derivative instruments, net	80	57	37
Other comprehensive loss, net of tax [1]	(9,209)	(4,153)	(3,908)
Total comprehensive loss	$(16,726)	$(1,900)	$(3,867)

(1) Tax impact was nominal for all periods.

See accompanying Notes to Consolidated Financial Statements.

Table of Contents

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

	Common Stock		Additional Paid-in Capital	Accumulated Earnings	Accumulated Other Comprehensive (Loss) Income	Treasury Stock		Total Stockholders' Equity
	Shares	Amount				Shares	Amount	
Balance at December 31, 2013	16,936	$ 169	$117,147	$ 11,840	$ 461	(1,659)	$(13,150)	$ 116,467
Net income	—	—	—	41	—	—	—	41
Other comprehensive loss	—	—	—	—	(3,908)	—	—	(3,908)
Stock-based compensation	—	—	3,771	—	—	—	—	3,771
Registration fees	—	—	41	—	—	—	—	41
Excess tax shortfall on share-based awards	—	—	(2)	—	—	—	—	(2)
Issuance of common stock under employee stock purchase plan	12	—	138	—	—	—	—	138
Shares withheld, repurchased and retired related to minimum statutory tax withholding requirements	(35)	—	(481)	—	—	—	—	(481)
Exercise of stock options and issuance of restricted stock awards, net of forfeitures	240	3	470	—	—	—	—	473
Balance at December 31, 2014	17,153	$ 172	$121,084	$ 11,881	$ (3,447)	(1,659)	$(13,150)	$ 116,540
Net income	—	—	—	2,253	—	—	—	2,253
Other comprehensive loss	—	—	—	—	(4,153)	—	—	(4,153)
Stock-based compensation	—	—	3,734	—	—	—	—	3,734
Issuance of common stock under employee stock purchase plan	28	—	291	—	—	—	—	291
Shares withheld, repurchased and retired related to minimum statutory tax withholding requirements	(27)	—	(578)	—	—	—	—	(578)
Exercise of stock options and issuance of restricted stock awards, net of forfeitures	182	1	88	—	—	—	—	89
Balance at December 31, 2015	17,336	$ 173	$124,619	$ 14,134	$ (7,600)	(1,659)	$(13,150)	$ 118,176
Net loss	—	—	—	(7,517)	—	—	—	(7,517)
Other comprehensive loss	—	—	—	—	(9,209)	—	—	(9,209)
Stock-based compensation	—	—	3,651	—	—	—	—	3,651
Issuance of common stock under employee stock purchase plan	18	—	146	—	—	—	—	146

Shares withheld, repurchased and retired related to minimum statutory tax withholding requirements	(32)	—	(313)	—	—	—	—	(313)
Excess tax shortfall on share-based awards	—	—	(869)	—	—	—	—	(869)
Exercise of stock options and issuance of restricted stock awards, net of forfeitures	1,099	11	2,426	—	—	—	—	2,437
Balance at December 31, 2016	18,421	$ 184	$129,660	$ 6,617	$ (16,809)	(1,659)	$(13,150)	$ 106,502

See accompanying Notes to Consolidated Financial Statements.

Table of Contents

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

	Year Ended December 31,		
	2016	2015	2014
Cash flows from operating activities:			
Net (loss) income	$(7,517)	$2,253	$41
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Provision for doubtful accounts	872	1,337	1,610
Depreciation and amortization	12,564	12,719	9,987
Deferred income taxes	2,406	(411)	(1,813)
Loss (gain) on sale of fixed assets	907	(4)	30
Loss on derivatives instruments	—	57	—
Compensation expense related to stock-based awards and employee stock purchase plan	3,651	3,734	3,771
Unrealized currency translation loss	881	391	—
Changes in operating assets and liabilities:			
Accounts receivable	10,709	(5,803)	(8,235)
Inventories	806	(3,755)	867
Prepaid expenses and other current assets	(332)	(1,576)	1,141
Other non-current assets	(2,378)	1,539	569
Accounts payable	(790)	(3,390)	1,676
Deferred revenue	1,474	(1,643)	1,622
Accrued expenses	(3,687)	3,023	(1,002)
Other long-term liabilities	(867)	(74)	106
Net cash provided by operating activities	$18,699	$8,397	$10,370
Cash flows from investing activities:			
Capital expenditures	(5,631)	(5,694)	(5,118)
Net cash paid for business acquired	—	—	(43,448)
Purchases of marketable securities	(13,173)	(11,323)	(12,270)
Maturities and sales of marketable securities	10,080	13,217	34,150
Net cash used in investing activities	$(8,724)	$(3,800)	$(26,686)
Cash flows from financing activities:			
Repayments of long-term debt	(1,358)	(1,307)	(1,272)
Repayments of term note borrowings	(5,281)	(4,876)	(1,219)
Proceeds from term note borrowings	—	—	65,000
Proceeds from stock options exercised and employee stock purchase plan	2,583	432	608
Payment of employee restricted stock withholdings	(313)	(578)	(482)
Repayments of line of credit borrowings	—	—	(30,000)
Other	(4)	—	41
Net cash (used in) provided by financing activities	$(4,373)	$(6,329)	$32,676
Effect of exchange rate changes on cash and cash equivalents	(1,899)	(838)	(429)
Net increase in cash and cash equivalents	3,703	(2,570)	15,931
Cash and cash equivalents at beginning of period	22,719	25,289	9,358
Cash and cash equivalents at end of period	$26,422	$22,719	$25,289
Supplemental disclosure of cash flow information:			
Cash paid for interest	$1,433	$1,467	$1,296
Cash paid for income taxes, net of refunds	$3,647	$2,182	$2,470
Changes in accrued liabilities and accounts payable related to fixed asset additions	$345	$—	$—

See accompanying Notes to Consolidated Financial Statements.
66

Table of Contents

KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
December 31, 2016, 2015 and 2014
(in thousands, except per share amounts)

(1) Summary of Significant Accounting Policies

(a) Description of Business

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

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

KVH’s mobile connectivity products enable customers to receive voice and Internet services, and live digital television via satellite services in marine vessels, recreational vehicles, buses and automobiles. KVH’s CommBox offers a range of tools designed to increase communication efficiency, reduce costs, and manage network operations. KVH sells and leases its mobile connectivity products through an extensive international network of dealers and distributors. KVH also sells and leases products directly to end users.

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

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

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

(b) Principles of Consolidation

The accompanying consolidated financial statements of KVH Industries, Inc. and its wholly owned subsidiaries have been prepared in accordance with accounting principles generally accepted in the United States of America. All of the operating expenses of the subsidiaries that serve as the Company's European, Singaporean, Japanese, and Brazilian international distributors are reflected within sales, marketing, and support within the accompanying consolidated statements of operations. All significant intercompany accounts and transactions have been eliminated in consolidation. As a result of certain acquisitions as discussed in Note 9, "Acquisitions", the operating results of these acquired entities are included in the Company's

consolidated results of operations from the date of acquisition prospectively. The Company adoption of ASU 2015-02, Consolidation (Topic 810) - Amendments to the Consolidation Analysis, on January 1, 2016 did not have an impact on the entities that the Company consolidates, which represent its wholly-owned subsidiaries, and had no impact on the Company's consolidated results of operations or financial position.

(c) Significant Estimates and Assumptions and Other Significant Non-Recurring Transactions

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of sales and expenses during the reporting periods. On an on-going basis, the Company evaluates its significant estimates, including those related to revenue recognition, valuation of accounts receivable, value of inventory, valuations and purchase price allocations related to business combinations, expected future cash flows including growth rates, discount rates, terminal values and other assumptions and estimates used to evaluate the recoverability of long-lived assets and goodwill, estimated fair values of long-lived assets, including goodwill, amortization methods and periods, certain accrued expenses and other related charges, stock-based compensation, contingent liabilities, 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.

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

The Company has accounted for its $35,600 contract received in June 2012 from SANG to purchase TACNAV products and services under ASC 605-25, Multiple-Element Arrangements. See section (e) of this note for estimates and assumptions related to multiple-element-arrangements and completed contract sales accounting.

The SANG total contract value associated with TACNAV products is $21,200, for which final shipments were completed in the second quarter of 2013. Revenue was recognized for these product sales after transfer of title and risk of loss and after inspection occurred. The total contract value associated with all services is $14,400, and services were completed in the third quarter of 2014. The revenue for these services is recognized using the proportional performance accounting method. The Company limits the amount of revenue recognized for delivered elements to the amount that is not contingent on the future delivery of products or services, future performance obligations, or subject to customer-specific return or refund privileges. Total revenue recognized on the SANG contract in 2014 was approximately $1,300.

During the fourth quarter of 2016, the Company entered into arrangements with certain third parties who co-produced certain content that the Company distributes where the Company had certain ongoing royalty payments to these third parties. The agreements entered into during the fourth quarter of 2016 settled all outstanding liabilities owed by the Company to these third parties, as well as, resulted in the Company obtaining sole ownership and rights to the applicable content. Based on the final amounts paid under these agreements, the Company recognized a gain in the fourth quarter of 2016 of approximately $855. This amount was recorded as a reduction to sales, marketing and support expense in the Company's consolidated statement of operations for the year ended December 31, 2016.

(d) Concentration of Credit Risk and Single Source Suppliers

Cash, cash equivalents and marketable securities. The Company is potentially subject to financial instrument concentration of credit risk through its cash, cash equivalent and marketable securities investments. To mitigate these risks the Company maintains cash, cash equivalents and marketable securities with reputable and nationally recognized financial institutions. As of December 31, 2016, $25,712 classified as marketable securities was held by Wells Fargo and substantially all of the cash and cash equivalents were held by Bank of America, N.A. See Note 2 for

a description of marketable securities.

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

Trade accounts receivable. Concentrations of risk (see Note 12) 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. Activity within the Company's allowance for doubtful accounts for the periods presented is as follows:

	2016	2015	2014
Beginning balance	$3,534	$2,723	$1,705
Additions	872	1,342	1,610
Deductions (write-offs/recoveries) from reserve	(929)	(531)	(592)
Ending balance	$3,477	$3,534	$2,723

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.

(e) Revenue Recognition

Product sales. Product sales are recognized when persuasive evidence of an arrangement exists, goods are shipped, title has passed and collectability is reasonably assured. The Company's standard sales terms require that:

- All sales are final;
- Terms are generally Net 30;
- Shipments are tendered and shipped FOB (or as may be applicable, FCA, or EXW) the Company's plant or warehouse; and
- Title and risk of loss or damage passes to the dealer or distributor at the point of shipment when delivery is made to the possession of the carrier.

For certain inertial navigation product sales, customer acceptance or inspection may be required before title and risk of loss transfers. For those sales, revenue is recognized after transfer of title and risk of loss and after notification of customer acceptance. In certain circumstances customers may request a bill and hold arrangement. Under these bill and hold arrangements, revenue is recognized when the Company has fulfilled all of its performance obligations, the units are segregated and available for shipment in accordance with the defined contract delivery schedule, and the Company has received notification of customer acceptance which transfers title and risk of loss to the customer.

Under certain limited conditions, the Company, at its sole discretion, provides for the return of goods. No product is accepted for return and no credit is allowed on any returned product unless the Company has granted and confirmed prior written permission by means of appropriate authorization. The Company establishes reserves for potential sales returns, credits, and allowances, and evaluates, on a monthly basis, the adequacy of those reserves based upon historical experience and expectations for the future.

Multiple-element revenue arrangements. Some of our sales involve multiple-element arrangements that include both hardware-related products and contracted service, or satellite connectivity that are accounted under ASC 605-25, Multiple-Element Arrangements.

Multiple elements, arrangement consideration is allocated to each element based on the relative selling prices of all of the elements in the arrangement using the fair value hierarchy as required by "Revenue Recognition (Topic 605): Multiple-Deliverable Revenue Arrangements," (Accounting Standards Codification "ASC" 605-35). ASC 605-35 requires that the Company establish VSOE of fair value based upon the price charged when the same element is sold separately or established by management having the relevant pricing authority. When VSOE exists it is used to determine the selling price of a deliverable. When VSOE is not established, the Company attempts to establish the

selling price of each element based on TPE. When the Company is unable to establish selling price using VSOE or TPE, the Company uses BESP in the allocation of arrangement consideration for the relevant deliverables. The objective of BESP is to determine the price at which the Company would

transact a sale if a product or service was sold on a stand-alone basis. The Company determines BESP for our products and certain services by considering multiple factors including, but not limited to, overall market conditions, including geographic or regional-specific market factors and profit objectives for such deliverables.

Each deliverable within the Company's multiple-deliverable revenue arrangements is accounted for as a separate unit of accounting under the guidance of ASC 605-35 if both of the following criteria are met: the delivered item or items have value to the customer on a standalone basis; and for an arrangement that includes a general right of return relative to the delivered item(s), delivery or performance of the undelivered item(s) is considered probable and substantially in the control of the Company. The Company considers a deliverable to have standalone value if the item is sold separately by the Company or another vendor or if the item could be resold by the customer. Further, the Company's revenue arrangements generally do not include a general right of return relative to delivered products. Deliverables not meeting the criteria for being a separate unit of accounting are combined with a deliverable that does meet that criterion. The appropriate allocation of arrangement consideration and recognition of revenue is then determined for the combined unit of accounting.

Satellite connectivity and media content sales. Directly sold and re-sold satellite connectivity service for voice, data and Internet is recognized monthly based upon minutes or megabytes of traffic processed or contracted fixed fee schedules. Typically, all subscribers enter into a contracted one-year minimum service agreement. The Company has evaluated the factors within ASC 605 regarding gross versus net revenue reporting for its satellite connectivity service sales and its payments to the applicable service providers. Based on the evaluation of the factors within ASC 605, the Company has determined that the applicable indicators of gross revenue reporting were met. The applicable indicators of gross revenue reporting included, but were not limited to, the following:

- The Company is the primary obligor in its arrangements with its subscribers. The Company manages all interactions with the subscribers, while satellite connectivity service providers do not interact with the subscribers. In addition, the Company assumes the entire performance risk under its arrangements with the subscribers and in the event of a performance issue, the Company may incur reduction in fees without regard for any recourse that the Company may have with the applicable satellite connective service providers.
- The Company has latitude in establishing pricing, as the pricing under its arrangements with the subscribers is negotiated through a contracting process and has discretion on establishing pricing. The Company then separately negotiates the fees with the applicable satellite service providers.
- The Company has complete discretion in determining which satellite service providers it will contract with.

As a result, the Company has determined that we earn revenue (as a principal) from the delivery of satellite connectivity services to its subscribers and records all satellite connectivity service sales to subscribers as gross sales. All associated regulatory service fees and costs are recorded net in the consolidated financial statements. Media content sales include the Company's distribution of commercially licensed news, sports, movies and music content for commercial and leisure customers in the maritime, hotel, and retail markets as well as training videos to the merchant marine market that are typically based on a contracted fixed fee schedule. The Company typically recognizes revenue from media content sales ratably over the period of the service contract. The accounting estimates related to the recognition of satellite connectivity and media content service sales in results of operations requires the Company to make assumptions about future billing adjustments for disputes with subscribers as well as unauthorized usage.

Lease financing. Lease financing consists of sales-type leases primarily of the TracPhone V-IP Series. 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 present value of all payments under these leases as revenues, 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. Through December 31, 2016, lease sales have not been a significant portion of the Company’s total sales.

Contracted service sales. The Company engages in contracts for development, production, and services activities related to standard product modification or enhancement, which it accounts for using the proportional performance method of revenue recognition. The Company considers the nature of these contracts and the types of products and services provided when determining the proper accounting for a particular contract. Customer and government-agency contracted engineering service and grant sales under development contracts are recognized primarily under the proportional performance method during the period in which the Company performs the service or development efforts in accordance with the agreement. Services

performed under these types of contracts include engineering studies, surveys, building construction, prototype development, and program management. Performance is determined principally by comparing the accumulated costs incurred to date with management’s estimate of the total cost to complete the contracted work. The Company establishes billing terms at the time project deliverables and milestones are agreed. Unbilled revenue recognized in excess of the amounts invoiced to clients are classified within the accompanying consolidated balance sheets in the caption “prepaid expenses and other assets.”

The use of contract accounting requires significant judgment relative to estimating total contract revenues and costs, including assumptions relative to the length of time to complete the contract, the nature and complexity of the work to be performed, and prices for subcontractor services and materials. The risk to the Company on a fixed-price contract is that if estimates to complete the contract change from one period to the next, profit levels will vary from period to period. The Company's estimates are based upon the professional knowledge and experience of its engineers, program managers and other personnel, who review each long-term contract monthly to assess the contract's schedule, performance, technical matters and estimated cost at completion. Changes in estimates are applied when adjustments in estimated contract costs are identified, such revisions may result in current period adjustments to earnings applicable to performance in prior periods. Any advance payments arising from such extended-term development contracts are recorded as deposits. If, in any period, estimated total costs under a contract indicate an expected loss, then such loss is provided for in that period. Through December 31, 2016, contracted service revenue has not been a significant portion of the Company’s total sales.

Product service sales. Product service sales other than under development contracts are recognized when completed services are provided to the customer and collectability is reasonably assured. The Company establishes reserves for potential sales returns, credit and allowances, and evaluates, on a monthly basis, the adequacy of those reserves based upon historical experience and its expectations for the future. Through December 31, 2016, product service sales have not been a significant portion of the Company’s total sales.

Extended warranty sales. The Company sells extended warranty contracts on mobile connectivity and inertial navigation products. Sales under these contracts are recognized ratably over the contract term. Through December 31, 2016, warranty sales have not been a significant portion of the Company’s total sales.

(f) Fair Value of Financial Instruments

The carrying amounts of the Company’s financial instruments, which include cash equivalents, investments, accounts receivable, accounts payable and accrued expenses approximate their fair values due to the short maturity of these instruments. The carrying amount of the Company’s mortgage loan approximates fair value based on currently available quoted rates of similarly structured mortgage facilities. See Note 2 for more information on the fair value of the Company’s marketable securities.

(g) Cash, Cash Equivalents, and Marketable Securities

In accordance with the Company’s investment policy, cash in excess of operational needs is invested in money market mutual funds, government agency bonds, United States treasuries, municipal bonds, corporate notes, and certificates of deposit. All highly liquid investments with a maturity date of three months or less at the date of purchase are classified as cash equivalents. The Company determines the appropriate classification of marketable securities at each balance sheet date. As of December 31, 2016 and 2015, all of the Company’s marketable securities have been designated as available-for-sale and are carried at their fair value with unrealized gains and losses included in accumulated other comprehensive (loss) income in the accompanying consolidated balance sheets.

The Company reviews investments in debt securities for other than temporary impairment whenever the fair value of an investment is less than amortized cost and evidence indicates that an investment’s carrying amount is not recoverable within a reasonable period of time. To determine whether an impairment is other-than-temporary, the Company considers whether it intends to sell the security, whether it expects to recover the credit loss, and if it is more likely than not that the Company will be required to sell the security prior to recovery. Evidence considered in

this assessment includes the reasons for the impairment, compliance with the Company's investment policy, the severity and duration of the impairment, changes in value subsequent to year-end and forecasted performance of the investee. The Company has reviewed its securities with unrealized losses as of December 31, 2016 and 2015 and has concluded that no other-than-temporary impairments exist.

(h) Inventories

Inventories are stated at the lower of cost or market using the first-in first-out costing method. The Company adjusted the carrying value of its inventory based on the consideration of excess and obsolete components based on future estimate demand. The Company records inventory charges to costs of product sales.

(i) Property and Equipment

Property and equipment are stated at cost. Depreciation and amortization are computed on the straight-line method over the estimated useful lives of the respective assets. The principal lives used in determining the depreciation rates of various assets are: buildings and improvements, 5-40 years; leasehold improvements, shorter of original lease term or useful life; machinery, satellite hubs and equipment, and video-on-demand (VOD) units, 4-10 years; office and computer equipment, 3-7 years; and motor vehicles, 5 years.

(j) Goodwill, Intangible Assets and other Long-Lived Assets

The Company’s goodwill and intangible assets are associated with the purchase of Virtek Communication (now known as KVH Industries Norway AS) in September 2010, Headland Media Limited (now known as the KVH Media Group) in May 2013, and Videotel in July 2014.

Goodwill is recorded when the consideration for an acquisition exceeds the fair value of net tangible and identifiable intangible assets acquired. Goodwill is not amortized, but instead is tested for impairment at least annually, or if events or changes in circumstances indicate that the carrying value may not be recoverable. The Company has not historically incurred any goodwill impairment losses. The Company estimates the fair value of the reporting unit using a discounted cash flow model or other valuation models, such as comparative transactions and market multiples. The impairment test is performed through the application of a two-step process. The first step compares the carrying value of the Company’s reporting units to their estimated fair values as of the test date. If fair value is less than carrying value, a second step is performed to quantify the amount of the impairment, if any. As of August 31, 2016, the Company performed its annual impairment test for goodwill at the reporting unit level and, after conducting the first step, determined that it was not necessary to conduct the second step as it concluded that the fair value of its reporting units exceeded their carrying value. To date, the Company has not had to complete the second step of the goodwill impairment test and therefore has no accumulated goodwill impairment losses. The Company utilized an income approach and market approaches to estimate the fair value of the Company’s reporting units. The Company believes that its assumptions used to estimate the fair value of its reporting units were reasonable. As an additional corroborative test of the reasonableness of those assumptions, the Company completed a reconciliation of its market capitalization and overall enterprise value to the fair value of all of its reporting units as of August 31, 2016. If different assumptions were used, particularly with respect to estimating future cash flows, weighted average costs of capital, and terminal growth rates, different estimates of fair value may have resulted. However, based on the excess of fair value over carrying value and additional sensitivity analysis considered with respect to the Company’s valuation assumptions, the Company concluded it was more-likely-than-not that no goodwill impairment exists. As of August 31, 2016, the Company notes that the fair value of all of the Company’s reporting units exceeded their carrying values by more than 10%. The Company notes that its one reporting unit where the fair value exceeded the carrying value by less than 100% had goodwill of approximately $4,401 at both August 31, 2016 and December 31, 2016. A negative trend of operating results or material changes to forecasted operating results could result in the requirement for additional interim goodwill impairment tests and the potential of a future goodwill impairment charge, which could be material. The Company did not identify any impairment indicators that required an interim goodwill impairment test as of December 31, 2016.

Intangible assets with estimated lives and other long-lived assets are reviewed for impairment when events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of intangible assets with estimated lives and other long-lived assets is measured by a comparison of the carrying amount of an asset or asset group to future net undiscounted cash flows expected to be generated by the asset or asset group. If these

comparisons indicate that an asset is not recoverable, the Company will recognize an impairment loss for the amount by which the carrying value of the asset or asset group exceeds the related estimated fair value. Estimated fair value is based on either discounted future operating cash flows or appraised values, depending on the nature of the asset. During 2016, there were no events or changes in circumstances that indicated any of the carrying amounts of the Company’s intangible assets may not be recoverable. See Note 10 for further discussion of goodwill and intangible assets. During the fourth quarter of 2016, the Company commenced certain facility and other operational improvements. As a result, the Company completed a review of impairment of other long-lived assets for the associated asset groups and a review of the estimated remaining useful lives under ASC 360-10, Impairment and Disposal of

Long-Lived Assets, ("ASC 360-10"). Based on the impairment analysis under ASC 360-10, no impairment was noted. The Company did identify certain changes in the remaining estimated useful lives of certain property and equipment and certain components of internally-developed software acquired in the Company's acquisition of Videotel (see Note 9). The impact of these changes in estimated useful lives resulted in approximately $368 and $188 of additional depreciation and amortization expense, respectively, in the fourth quarter of 2016. The Company notes that the changes in estimated useful lives are not expected to have a material impact to the Company's future results from operations.

(k) Other Non-Current Assets

Other non-current assets are primarily comprised of long-term lease receivables, prepaid expenses, and deposits.

(l) 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 statements of operations. As of December 31, 2016 and 2015, the Company had accrued product warranty costs of $2,280 and $1,880, respectively. The following table summarizes product warranty activity during 2016 and 2015:

	2016	2015
Beginning balance	$1,880	$1,853
Charges to expense	1,723	1,431
Costs incurred	(1,323)	(1,404)
Ending balance	$2,280	$1,880

(m) Shipping and Handling Costs

Shipping and handling costs are expensed as incurred and included in cost of sales. Billings for shipping and handling are reflected within net sales in the accompanying statements of operations.

(n) Research and Development

Expenditures for research and development, including customer-funded research and development, are expensed as incurred. Revenue and related development costs from customer-funded research and development are as follows:

	Year Ended December 31,		
	2016	2015	2014
Customer-funded service sales	$1,400	$3,002	$3,806
Customer-funded costs included in costs of service sales	498	1,546	2,633

(o) Advertising Costs

Costs related to advertising are expensed as incurred. Advertising expense was $2,761, $2,712, and $2,825 for the years ended December 31, 2016, 2015, and 2014, respectively, and is included in sales, marketing, and support expense in the accompanying consolidated statements of operations.

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

(p) Foreign Currency Translation

The financial statements of the Company's foreign subsidiaries located in Denmark and Singapore are maintained using the United States dollar as the functional currency. Exchange rates in effect on the date of the transaction are used to record monetary assets and liabilities. Revenue and other expense elements are recorded at rates that approximate the rates in effect on the transaction dates. Foreign currency exchange gains and losses are recognized within "other (expense) income" in the accompanying consolidated statements of operations. For the years ended December 31, 2016, 2015, and 2014, the Company recorded a total of net foreign currency exchange (gains) losses in its accompanying consolidated statements of operations of $(53), $59, and $126, respectively, which is comprised of both realized and unrealized foreign currency exchange gains and losses.

The financial statements of the Company's foreign subsidiaries located in the United Kingdom, Brazil, Norway, Cyprus, Belgium, the Netherlands and Japan use the foreign subsidiaries' respective local currencies as the functional currency. The Company translates the assets and liabilities of these foreign subsidiaries at the exchange rates in effect at year-end. Net sales, costs and expenses are translated using average exchange rates in effect during the year. Gains and losses from foreign currency translation are credited or charged to accumulated other comprehensive loss included in stockholders' equity in the accompanying consolidated balance sheets.

(q) Income Taxes

Income taxes are accounted for under the asset and liability method. Under the asset and liability method, deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases.

Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. The Company records valuation allowances to reduce deferred income tax assets to the amount that is more likely than not to be realized. The Company determines whether it is more likely than not that a tax position will be sustained upon examination. If it is not more likely than not that a position will be sustained, no amount of the benefit attributable to the position is recognized. The tax benefit to be recognized of any tax position that meets the more likely than not recognition threshold is calculated as the largest amount that is more than 50% likely of being realized upon resolution of the contingency. See Note 8 for further discussion of income taxes.

(r) Net (Loss) Income per Common Share

Basic net (loss) income per share is calculated based on the weighted average number of common shares outstanding during the period. Diluted net income per share incorporates the dilutive effect of common stock equivalent options, warrants and other convertible securities, if any, as determined in accordance with the treasury stock accounting method. For the year ended December 31, 2016, due to the net loss, the Company excluded all 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. Common stock equivalents related to options and restricted stock awards for 766 and 784 shares of common stock for the years ended December 31, 2015, and 2014, respectively, have been excluded from the fully diluted calculation of net income per share, as inclusion would be anti-dilutive.

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

	2016	2015	2014
Weighted average common shares outstanding—basic	15,834	15,625	15,420
Dilutive common shares issuable in connection with stock plans	—	209	185
Weighted average common shares outstanding—diluted	15,834	15,834	15,605

(s) Contingent Liabilities

The Company estimates the amount of potential exposure it may have with respect to claims, assessments and litigation in accordance with ASC 450, Contingencies. As of December 31, 2016, the Company was not party to any

lawsuit or proceeding that, in management's opinion, was likely to materially harm the Company's business, results of operations,

financial condition or cash flows, as described in Note 17. It is not always possible to predict the outcome of litigation, as it is subject to many uncertainties. Additionally, it is not always possible for management to make meaningful estimate of the potential loss or range of loss associated with such litigation.

As of December 31, 2015, the Company was party to a lawsuit, as described in Note 17. The Company settled the legal claim through a cash payment. The cash payment was included in accrued other in our consolidated balance sheet at December 31, 2015. The cash payment was made in January 2016.

(t) Operating Segments

The Company operates in two segments, the mobile connectivity and inertial navigation segments. Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision maker in making decisions regarding resource allocation and assessing performance. The Company’s chief operating decision maker is its President, Chief Executive Officer and Chairman of the Board.

During the fourth quarter of 2016, the Company concluded that it had a change in its operating and reporting segments resulting in two new operating segments, which are also reportable segments and were organized based on products and services. The Company's reportable segments are: mobile connectivity and inertial navigation (see Note 13, "Segment Reporting"). The Company operates in a number of major geographic areas, including internationally. Revenues from international locations, primarily consisting of Canada, European countries, both inside and outside the European Union, as well as Africa, Asia/Pacific, the Middle East, and South America.

(u) Film Production Costs

The Company capitalizes direct costs incurred in the production of its training videos, such as writing, directing, narrating, casting, location rental, and editing. These film costs are classified as a non-current asset on its consolidated balance sheet and are placed into service upon the film title being released and available for customers' use. The Company’s sales model associated with training is subscription-based, in which fees from third parties are not directly attributable to the exhibition of a particular film but relate instead to access to the entire film library. Accordingly, management estimates that the straight line method is the most representative method for the amortization of film costs. Consistent with the period over which revenues are assessed (i.e. the subscription period), the film costs are amortized over four years. In the event that the film title is replaced or removed from the film library before the amortization period has expired, all unamortized costs are expensed immediately.

(v) Recently Issued Accounting Standards

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies. Recently issued standards typically do not require adoption until a future effective date. Prior to their effective date, the Company evaluates the pronouncements to determine the potential effects of adoption on our consolidated financial statements.

Standards Implemented

ASC Update No. 2015-03

In April 2015, the FASB issued ASU No. 2015-03, Simplifying the Presentation of Debt Issuance Costs, which requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of that debt liability, consistent with debt discounts, and that amortization of debt issuance costs be reported as interest expense. The recognition and measurement guidance for debt issuance costs are not affected by the amendments in this ASU. This ASU requires retrospective adoption and was effective for us beginning with our first quarterly filing in 2016. The Company had no material capitalized debt issuance costs as of

the date of adoption and therefore, there was no material impact to the Company's consolidated financial position as a result of the adoption.

ASC Update No. 2015-05

In April 2015, the FASB issued ASC Update No. 2015-05, Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40): Customer’s Accounting for Fees Paid in a Cloud Computing Arrangement. Update No. 2015-05 provides accounting guidance on how customers should treat cloud computing arrangements. If a cloud computing arrangement includes

a software license, then the customer should account for the software license element of the arrangement consistent with the acquisition of other software licenses. If a cloud computing arrangement does not include a software license, the customer should account for the arrangement as a service contract. Update No. 2015-05 is effective for annual reporting periods beginning after December 15, 2015 and interim periods within those reporting periods. The Company elected to adopt the amendments prospectively to all arrangements entered into or materially modified after the effective date. The adoption of Update No. 2015-05 did not have a material impact on the Company's financial position or results of operations.

ASC Update No. 2015-16

In September 2015, the FASB issued ASC Update No. 2015-16, Business Combinations (Topic 805): Simplifying the Accounting for Measurement - Period Adjustments. Update No. 2015-16 eliminates the requirement to restate prior period financial statements for measurement period adjustments following a business combination. Update No. 2015-16 requires that the cumulative impact of a measurement period adjustment (including the impact on prior periods) be recognized in the reporting period in which the adjustment is identified. The prior period impact of the adjustment should be either presented separately on the face of the income statement or disclosed in the notes. Update No. 2015-16 is effective for fiscal years beginning after December 15, 2015. The adoption of Update No. 2015-16 did not impact the Company's financial position or results of operations.

ASC Update No. 2015-17

In November 2015, the FASB issued ASC Update No. 2015-17, Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes. Update No. 2015-17 requires that deferred tax liabilities and assets be classified as noncurrent in a classified statement of financial position. It is effective for fiscal years beginning after December 15, 2016; however, earlier application is permitted. The Company elected to early adopt Update No. 2015-17 in 2016 on a prospective basis; as such, prior periods were not retrospectively adjusted. The adoption of Update No. 2015-17 did not have a material impact on the Company's financial position or results of operations.

ASC Update No. 2017-01

On January 6, 2017, the FASB issued new guidance that changes the definition of a business to assist entities with evaluating when a set of transferred assets and activities is a business. This guidance (ASU 2017-01, Business Combinations (Topic 805)-Clarifying the Definition of a Business) is effective for fiscal years beginning after December 15, 2017, including interim periods within those periods. However, early adoption is permitted. If the guidance is early adopted, early application of ASU 2017-01 is allowed for transactions for which the acquisition date occurs before the issuance date or effective date, only when the transaction has not been reported in financial statements that have been issued or made available for issuance. The Company has decided to early adopt Update No. ASU 2017-01 and adopted this guidance for transactions that occur subsequent to October 1, 2016. The adoption of Update No. ASU 2017-01 did not have a material impact on the Company's financial position or results of operations.

Standards to be Implemented

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

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

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

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

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

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

The Company will adopt Topic 606 effective January 1, 2018. The Company anticipates it will adopt Topic 606 under the modified retrospective method and will only apply this method to contracts that are not completed as of the date of adoption. The modified retrospective method will result in a cumulative effect of initially applying the standard as an adjustment to the opening balance of retained earnings at the date of initial application for any open contracts as of the adoption date. The Company is currently in the process of reviewing its contracts and related revenue streams to determine the impact that the adoption will have on the Company’s financial position and results of operations.

ASC Update No. 2016-01

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

ASC Update No. 2016-02

In February 2016, the FASB issued ASC Update No. 2016-02, Leases (Topic 842). It is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Earlier application is

permitted. Update No. 2016-02 is intended to increase the transparency and comparability among organizations by recognizing lease asset and lease liabilities on the balance sheet, including those previously classified as operating leases under current U.S. GAAP, and disclosing key information about leasing arrangements. The Company is in the process of determining the effect that the adoption of this standard will have on its financial position and results of operations.

ASC Update No. 2016-09

In March 2016, the FASB issued ASC Update No. 2016-09, Compensation- Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting. This update is effective for annual reporting periods after December 15, 2016, including interim periods within those fiscal periods. Early adoption is permitted. The purpose of the update is to simplify several areas of the accounting for share-based payment transactions, including the income tax

consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. Upon adoption, the impact on our financial position and results of operations will be dependent upon various factors including stock price and timing of option exercises which is difficult to estimate. The Company adopted this ASC update on January 1, 2017. Although, this ASC update does not impact the Company's results of operations, financial position or cash flows for any periods prior to the adoption, the adoption of this ASC update had the following impact on the date of adoption:

- The adoption of ASU 2016-09 also requires all income tax adjustments to be recorded in the consolidated statements of operations. The cumulative adjustment upon adoption to accumulated earnings was zero since the increase in net deferred tax assets was fully offset by a corresponding increase in the deferred tax asset valuation allowance. The amount of deferred tax assets that had not been previously recognized due to the recognition of excess tax benefits was $1,571.
- The Company has elected to account for forfeitures on share-based payments as these forfeitures occur, which represents a change from the accounting previously required under ASC 718. As a result, the Company notes that future forfeitures could result in a significant reversal of stock-based compensation expense recognized in the period in which such forfeitures occur.

ASC Update No. 2015-11

In April 2015, the FASB issued ASC Update No. 2015-11, Simplifying the Measurement of Inventory regarding ASC Topic 330 - Inventory. Update No. 2015-11 require entities that measure inventory using the first-in, first-out or average cost methods to measure inventory at the lower of cost and net realizable value. Net realizable value is defined as estimated selling price in the ordinary course of business less reasonably predictable costs of completion and disposal. Update No. 2015-11 is effective on a prospective basis for fiscal years, and for interim periods within those fiscal years, beginning after December 15, 2016, with earlier application permitted. The Company adopted Update No. 2015-11 on January 1, 2017 and the adoption did not have a material effect on the Company's financial position, results of operations or cash flows.

ASC Update No. 2016-13

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

ASC Update No. 2016-15

In August 2016, the FASB issued ASC Update No. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments. The update is effective for fiscal years beginning after December 15, 2017 and interim periods within those fiscal years. Early adoption is permitted, including adoption in an interim period. The

purpose of Update No. 2016-15 is to reduce the diversity in practice in presentation and classification of the following items within the statement of cash flows: debt prepayments, settlement of zero coupon debt instruments, contingent consideration payments, insurance proceeds, securitization transactions and distributions from equity method investees. The update also addresses classification of transactions that have characteristics of more than one class of cash flows. The Company is in the process of determining the effect that the adoption will have on its financial position and results of operations.

ASC Update No. 2016-16

In October 2016, the FASB issued ASU Update No. 2016-16, Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory. The update is effective for fiscal years beginning after December 15, 2017, including interim reporting periods within those fiscal years. Early adoption is permitted as of the beginning of an annual reporting period for which financial statements (interim or annual) have not been issued or made available for issuance. The purpose of Update No. 2016-16 is to allow an entity to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer

occurs, as opposed to waiting until the asset is sold to an outside party. The Company is in the process of determining the effect that the adoption will have on its financial position and results of operations.

ASC Update No. 2017-04

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

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

(2) Marketable Securities

Marketable securities consisted of the following as of December 31, 2016 and 2015:

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

December 31, 2015	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market mutual funds	$ 13,244	$ —	$ —	$13,244
United States treasuries	1,002	—	—	1,002
Corporate notes	2,283	1	—	2,284
Certificates of deposit	6,089	—	—	6,089
Total marketable securities designated as available-for-sale	$ 22,618	$ 1	$ —	$22,619

The amortized costs and fair value of debt securities as of December 31, 2016 and 2015 are shown below by effective maturity. Effective maturities may differ from contractual maturities because the issuers of the securities may have the right to prepay obligations without prepayment penalties.

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

December 31, 2016	Amortized Cost	Fair Value
Due in less than one year	$ 3,864	$3,864
Due after one year and within two years	—	—
	$ 3,864	$3,864

December 31, 2015	Amortized Cost	Fair Value
Due in less than one year	$ 5,515	$5,516
Due after one year and within two years	3,859	3,859
	$ 9,374	$9,375

Interest income from cash equivalents and marketable securities was $94 and $110 for the years ended December 31, 2016 and 2015, respectively.

(3) Inventories

Inventories are stated at the lower of cost or market using the first-in first-out costing method. Inventories as of December 31, 2016 and 2015 include the costs of material, labor, and factory overhead. Inventories consist of the following:

	December 31,	
	2016	2015
Raw materials	$10,606	$12,833
Work in process	2,185	2,778
Finished goods	7,954	5,978
	$20,745	$21,589

(4) Property and Equipment

Property and equipment, net, as of December 31, 2016 and 2015 consist of the following:

	December 31,	
	2016	2015
Land	$3,828	$3,828
Building and improvements	21,717	22,407
Leasehold improvements	155	299
Machinery and equipment	41,777	40,788
Office and computer equipment	14,824	15,729
Motor vehicles	51	51
	82,352	83,102
Less accumulated depreciation	(45,766)	(43,202)
	$36,586	$39,900

Depreciation expense for the years ended December 31, 2016, 2015, and 2014 amounted to $7,608, $7,193, and $6,127, respectively.

Included within machinery and equipment are certain hardware revenue generating assets that had a net book value of $7,734 and $10,201 as of December 31, 2016 and 2015, respectively, that are utilized in the delivery of the Company's airtime services, media, and other content.

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

(5) Debt and Line of Credit

Long-term debt consists of the following:

	December 31,	
	2016	2015
Term notes	$53,625	$58,906
Mortgage loan	2,951	3,114
Equipment loans	1,477	2,672
Total	58,053	64,692
Less amounts classified as current	7,900	6,638
Long-term debt, excluding current portion	$50,153	$58,054

Term Note and Line of Credit

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

The Credit Agreement was amended in June 2015 to modify the circumstances under which certain changes in the Company's Board of Directors would constitute a change of control. The Credit Agreement was further amended in September 2015 to modify the Maximum Consolidate Leverage Ratio as of September 30, 2015. The Credit Agreement was amended again in March 2017 to further modify the Maximum Consolidated Leverage Ratio, to amend the Applicable Rate and amortization schedule of the Term Loan and to modify the definition of Consolidated Fixed Charges, as well as make certain other changes.

The $65,000 Term Note was executed on July 1, 2014 in connection with the acquisition of Videotel. See Note 13 below for more information regarding the acquisition. Proceeds in the amount of $35,000 were applied toward the payment of a portion of the purchase price for the acquired shares of Videotel, and proceeds in the amount of approximately $30,000 were applied toward the refinancing of the then-outstanding balance of the Company’s previous credit facility. The Company was required to make principal repayments on the Term Loan in the amount of approximately $1,200 at the end of each of the first 8 three-month periods following the closing; thereafter, the Company was required to make principal repayments in the amount of approximately $1,600 for each succeeding three-month period until the maturity of the loan on July 1, 2019. The Company made the first payment on this debt in September 2014 and has made all required principal repayments on a timely basis. In connection with the March 2017 amendment, the Company made an additional principal repayment of $6,000 on the Term Note and amended the repayment terms. Under the amended terms, the Company must make principal repayments of $575 every three months starting on April 1, 2017 until the Term Note maturity on July 1, 2019. On the maturity date, the entire remaining principal balance of the loan, including any future loans under the Revolver, is due and payable, together with all accrued and unpaid interest, penalties, and other amounts due and payable under the Credit Agreement. The

Credit Agreement contains provisions requiring the mandatory prepayment of amounts outstanding under the Term Loan and the Revolver under specified circumstances, including (i) 100% of the net cash proceeds from certain dispositions to the extent not reinvested in the Company's business within a stated period, (ii) 50% of the net cash proceeds from stated equity issuances and (iii) 100% of the net cash proceeds from certain receipts of more than $250 outside the ordinary course of business. The prepayments are first applied to the Term Loan, in inverse order of maturity, and then to the Revolver. In the discretion of the Administrative Agent, certain mandatory prepayments made on the Revolver can permanently reduce the amount of credit available under the Revolver.

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

Borrowings under the Revolver are subject to the satisfaction of numerous conditions precedent at the time of each borrowing, including the continued accuracy of the Company's representations and warranties and the absence of any default under the Credit Agreement. As of December 31, 2016, there were no borrowings outstanding under the revolver and the full balance of $15,000 was available for borrowing.

The Credit Agreement contains two financial covenants, a Maximum Consolidated Leverage Ratio and a Minimum Consolidated Fixed Charge Coverage Ratio, each as defined in the Credit Agreement. In September 2015, the Maximum Consolidated Leverage Ratio was increased from 1.00:1.00 to 1.75:1.00 for September 30, 2015, 1.50:1.00 for December 31, 2015, and 1.25:1.00 for March 31, 2016 and each fiscal quarter thereafter. The Minimum Consolidated Fixed Charge Coverage Ratio may not be less than 1.25:1.00. The Company was in compliance with these financial ratio debt covenants as of December 31, 2016. As a result of the March 2017 amendment, the Maximum Consolidated Leverage Ratio was increased to 1.50:1.00. In addition, the definition of the Consolidated Fixed Charge Coverage Ratio was amended to include only maintenance capital expenditures as defined.

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

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

Mortgage Loan

On April 6, 2009, the Company entered into a mortgage loan in the amount of $4,000 related to its headquarters facility in Middletown, Rhode Island. On June 9, 2011, the Company entered into an amendment to the mortgage loan. The loan term is ten years, with a principal amortization of 20 years, and the interest rate will be a rate per year adjusted periodically based on a defined interest period equal to the BBA LIBOR Rate of 2.18% plus 2.00 percentage points. Land, building and improvements with an approximate carrying value of $5,000 as of December 31, 2016 secure the mortgage loan. The monthly mortgage payment is approximately $14 plus interest and increases in increments of approximately $1 each year throughout the life of the mortgage. Due to the difference in the term of the loan and amortization of the principal, a balloon payment of $2,551 is due on April 1, 2019. The loan contains one financial covenant, a Fixed Charge Coverage Ratio, which applies in the event that the Company's consolidated cash,

cash equivalents, and marketable securities balance falls below $25,000 at any time. As the Company's consolidated cash, cash equivalents, and marketable securities balance was above the minimum threshold throughout the year ended December 31, 2016, the Fixed Charge Coverage Ratio did not apply. Under the mortgage loan, the Company may prepay its outstanding loan balance subject to certain early termination charges as defined in the mortgage loan agreement. If the Company were to default on its mortgage loan, the land, building and improvements would be used as collateral. As discussed in Note 16 to the consolidated financial statements, effective April 1, 2010, in order to reduce the volatility of cash outflows that arise from changes in interest rates, the Company entered into two interest rate swap

agreements that are intended to hedge its mortgage interest obligations by fixing the interest rates specified in the mortgage loan to 5.91% for half of the principal amount outstanding and 6.07% for the remaining half of the principal amount outstanding as of April 1, 2010 until the mortgage loan expires on April 16, 2019.

Equipment Loan

On January 30, 2013, the Company borrowed $4,700 from a bank and pledged as collateral six satellite hubs and related equipment, including three hubs purchased in 2012. The term of the equipment loan is five years, and the loan bears interest at a fixed rate of 2.76% per annum. The monthly payment is approximately $83, including interest expense. On December 30, 2013, the Company borrowed $1,200 from a bank and pledged as collateral one satellite hub and related equipment. The term of the equipment loan is five years, and the loan bears interest at a fixed rate of 3.08% per annum. The monthly payment is approximately $21, including interest expense.

The following is a summary of future principal payments under these long-term debt agreements:

Year ending December 31,	Principal Payment
2017	$ 7,900
2018	6,931
2019	43,222
Total outstanding at December 31, 2016	$ 58,053

(6) Commitments and Contingencies

The Company has certain operating leases for satellite capacity, various equipment, and facilities. The following reflects future minimum payments under operating leases that have initial or remaining non-cancelable lease terms at December 31, 2016:

Years ending December 31,	Operating Leases
2017	$ 13,804
2018	8,851
2019	4,667
2020	1,581
2021	179
Thereafter	248
Total minimum lease payments	$ 29,330

Total rent expense incurred under facility operating leases for the years ended December 31, 2016, 2015, and 2014 amounted to $601, $630, and $820, respectively. Total expense incurred under satellite capacity and equipment operating leases for the years ended December 31, 2016, 2015, and 2014 amounted to $31,606, $32,793, and $30,280, respectively, which also includes payments for usage charges in excess of the minimum contractual requirements.

In the normal course of business, the Company enters into unconditional purchase order obligations with its suppliers for inventory and other operational purchases. Outstanding and unconditional purchase order obligations were $14,818 as of December 31, 2016, which the Company expects to fulfill in 2017.

Other than the interest rate swaps (see Note 16), the Company did not have any off-balance sheet commitments, guarantees, or standby repurchase obligations as of December 31, 2016.

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

(7) Stockholders' Equity
(a) Employee Stock Options

On June 15, 2016, at the Company's 2016 Annual Meeting of Stockholders, the stockholders of the Company approved the 2016 Equity and Incentive Plan (2016 Plan). The 2016 Plan authorizes the Company to issue up to 3,000 shares of common stock (plus an additional 1,690 shares intended to roll over into the 2016 Plan shares subject to awards outstanding on June 15, 2016 under earlier plans that may be forfeited, canceled, reacquired by the Company or terminated) pursuant to stock options, restricted stock awards and other stock-based awards.
Options are generally granted with an exercise price equal to the fair market value of the common stock on the date of grant and generally vest in equal annual amounts over four years beginning on the first anniversary of the date of the grant. No options are exercisable for periods of more than five years after date of grant. Under the 2016 Plan, each share issued under awards other than options and stock appreciation rights will reduce the number of shares reserved for issuance by two shares. Shares issued under options or stock appreciation rights will reduce the shares reserved for issuance on a share-for-share basis. The 2016 Plan and earlier equity compensation plans, pursuant to which 12,415 shares of the Company's common stock were reserved for issuance, were all approved by the Company's shareholders. As of December 31, 2016, 2,895 shares were available for future grants. The Compensation Committee of the Board of Directors administers the equity compensation plans, approves the individuals to whom awards will be granted and determines the number of shares and other terms of each award. Outstanding options under the Company's equity compensation plans at December 31, 2016 expire from February 2017 through November 2021. None of the Company's outstanding options includes performance-based or market-based vesting conditions as of December 31, 2016.
The Company has estimated the fair value of each option grant on the date of grant using the Black-Scholes option-pricing model. The expected volatility assumption is based on the historical daily price data of the Company's common stock over a period equivalent to the weighted average expected life of the Company's options. The expected term of options granted is derived using assumed exercise rates based on historical exercise patterns and represents the period of time the options granted are expected to be outstanding. The risk-free interest rate is based on the actual U.S. Treasury zero-coupon rates for bonds matching the expected term of the option as of the option grant date. The dividend yield of zero is based upon the fact that the Company has not historically declared or paid cash dividends, and does not expect to declare or pay dividends in the foreseeable future.
The per share weighted-average fair values of stock options granted during 2016, 2015, and 2014 were $2.77, $4.39, and $4.71, respectively. The weighted-average assumptions used to value options as of their grant date were as follows:

	Year Ended December 31,		
	2016	2015	2014
Risk-free interest rate	1.43%	1.55%	1.52%
Expected volatility	38.2%	43.3%	46.5%
Expected life (in years)	4.18	4.17	4.21
Forfeiture rate	5.00%	5.00%	5.00%
Dividend yield	0 %	0 %	0 %

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

The changes in outstanding stock options for the year ended December 31, 2016 are as follows:

	Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in Years)	Aggregate Intrinsic Value
Outstanding at December 31, 2015	1,177	$ 11.60		
Granted	75	$ 8.90		
Exercised	(269)	$ 9.06		
Expired, canceled or forfeited	(297)	$ 13.68		
Outstanding at December 31, 2016	686	$ 11.41	2.23	$ 681
Exercisable at December 31, 2016	379	$ 11.39	1.50	$ 382
Options vested or expected to vest at December 31, 2016	674	$ 11.42	2.04	$ 662

The total aggregate intrinsic value of options exercised was $484, $50, and $232 in 2016, 2015, and 2014, respectively. The total aggregate intrinsic value of options outstanding at December 31, 2015 and 2014 was $123 and $1,814, respectively. The total aggregate intrinsic value of options exercisable at December 31, 2015 and 2014 was $122 and $761, respectively.

As of December 31, 2015 and 2014, the number of options exercisable was 687 and 490, respectively, and the weighted average exercise price of those options was $11.60 and $11.87 per share, respectively. The weighted average remaining contractual term for options exercisable at December 31, 2015 and 2014 was 2.00 and 1.76 years, respectively. The weighted average remaining contractual term for options outstanding at December 31, 2015 and 2014 was 2.04 and 2.72 years, respectively.

As of December 31, 2016, there was $790 of total unrecognized compensation expense related to stock options, which is expected to be recognized over a weighted-average period of 1.94 years. In 2016, 2015, and 2014, the Company recorded compensation charges of $702, $1,229, and $1,368, respectively, related to stock options. Compensation costs for options subject only to service conditions that vest ratably are recognized on a straight-line basis over the requisite service period for the entire award. During 2016, 2015, and 2014, cash received under stock option plans for exercises was $2,438, $90 and $471, respectively.

(b) Restricted Stock

The Company granted 424, 203, and 265 restricted stock awards to employees under the terms of the 2016 Plan or the Amended and Restated 2006 Stock Incentive Plan (2006 Plan) for the years ended December 31, 2016, 2015, and 2014, respectively. The restricted stock awards generally vest annually over four years from the date of grant subject to the recipient remaining an employee through the applicable vesting dates. Compensation expense for restricted stock awards is measured at fair value on the date of grant based on the number of shares granted and the quoted market closing price of the Company’s common stock. Such value is recognized as expense over the vesting period of the award, net of estimated forfeitures. The weighted-average grant-date fair value of restricted stock granted during 2016, 2015, and 2014 was $8.68, $12.43, and $13.57 per share, respectively.

As of December 31, 2016, there was $4,344 of total unrecognized compensation expense related to restricted stock awards, which is expected to be recognized over a weighted-average period of 2.32 years. Compensation costs for awards subject only to service conditions that vest ratably are recognized on a straight-line basis over the requisite service period for the entire award. Compensation cost for awards initially subject to certain performance conditions are recognized on a ratable basis over the requisite service period for the entire award. In 2016, 2015, and 2014, the

Company recorded compensation charges of $2,938, $2,422, and $2,317, respectively, related to restricted stock awards.

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

Restricted stock activity under the 2006 Plan and the 2016 Plan for 2016 is as follows:

	Number of Shares	Weighted-average grant date fair value
Outstanding at December 31, 2015, unvested	458	$ 13.22
Granted	424	8.68
Vested	(186)	12.82
Forfeited	(52)	10.39
Outstanding at December 31, 2016, unvested	644	$ 10.58

(c) Employee Stock Purchase Plan

On June 15, 2016, at the Company's 2016 Annual Meeting of Stockholders, the stockholders of the Company also approved amendments to the Company's Amended and Restated 1996 Employee Stock Purchase Plan (ESPP) that, among other things, increased the number of shares of common stock reserved for issuance by 1,000 to a total of 1,650, of which 1,000 shares remain available as of December 31, 2016.

The ESPP covers all of the Company’s employees. Under the terms of the ESPP, eligible employees can elect to have up to six percent of their pre-tax compensation withheld to purchase shares of the Company’s common stock on a semi-annual basis. Before the amendment to the plan, the ESPP allowed eligible employees the right to purchase the Company’s common stock on a semi-annual basis at 85% of the market price at the end of each purchase period. Under the amendment, the ESPP now allows eligible employees the right to purchase the Company's common stock on a semi-annual basis at 85% of the market price on the first or last day of each purchase period, whichever is lower. During 2016, 2015, and 2014, shares issued under this plan were 18, 28, and 12 shares, respectively. The Company utilizes the Black-Scholes option-pricing model to calculate the fair value of these discounted purchases. The fair value of the 15% discount is recognized as compensation expense over the purchase period. The Company applies a graded vesting approach because the ESPP provides for multiple purchase periods and is, in substance, a series of linked awards. In 2016, 2015, and 2014, the Company recorded compensation charges of $11, $58, and $55, respectively, related to the ESPP. During 2016, 2015, and 2014, cash received under the ESPP was $146, $291, and $138, respectively.

(d) Stock- Based Compensation Expense

The following presents stock-based compensation expense in the Company's consolidated statements of operations for the years ended December 31, 2016, 2015, and 2014.

	2016	2015	2014
Cost of product sales	$321	$317	$384
Cost of service sales	1	—	1
Research and development	690	619	695
Sales, marketing and support	1,027	927	926
General and administrative	1,612	1,871	1,765
	$3,651	$3,734	$3,771

(e) Accumulated Other Comprehensive Loss

Comprehensive income (loss) includes net earnings (loss), unrealized gains and losses from foreign currency translation, and pension liability adjustments, net of tax attributes, which substantially relate to the pension liability adjustment. 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).

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

	Foreign Currency Translation	Unrealized Gain (Loss) on Available for Sale Marketable Securities	Interest Rate Swaps	Total Accumulated Other Comprehensive Loss
Balance, December 31, 2013	$ 797	$ (4)	$ (332)	$ 461
Other comprehensive (loss) income before reclassifications	(3,953)	8	(84)	(4,029)
Amounts reclassified from AOCI to Other income (expense), net (1)	—	—	121	121
Net other comprehensive (loss) income, December 31, 2014	(3,953)	8	37	(3,908)
Balance, December 31, 2014	(3,156)	4	(295)	(3,447)
Other comprehensive (loss) income before reclassifications	(4,207)	(3)	(58)	(4,268)
Amounts reclassified from AOCI to Other income (expense), net (1)	—	—	115	115
Net other comprehensive (loss) income, December 31, 2015	(4,207)	(3)	57	(4,153)
Balance, December 31, 2015	(7,363)	1	(238)	(7,600)
Other comprehensive (loss) income before reclassifications	(9,288)	(1)	(20)	(9,309)
Amounts reclassified from AOCI to Other income (expense), net (1)	—	—	100	100
Net other comprehensive (loss) income, December 31, 2016	(9,288)	(1)	80	(9,209)
Balance, December 31, 2016	(16,651)	—	(158)	(16,809)

(1) For additional information, see Note 2, "Marketable Securities", and see Note 16, "Derivative Instruments and Hedging Activities"

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

(8) Income Taxes

Income tax expense (benefit) for the years ended December 31, 2016, 2015, and 2014 attributable to income (loss) from operations is presented below.

	Current	Deferred	Total
Year ended December 31, 2016			
Federal	$227	$3,197	$3,424
State	144	457	601
Foreign	2,770	(1,248)	1,522
	$3,141	$2,406	$5,547
Year ended December 31, 2015			
Federal	$(555)	$(94)	$(649)
State	120	765	885
Foreign	295	(118)	177
	$(140)	$553	$413
Year ended December 31, 2014			
Federal	$325	$(623)	$(298)
State	(2)	1,036	1,034
Foreign	1,640	(1,092)	548
	$1,963	$(679)	$1,284

The actual income tax expense (benefit) differs from the “expected” income tax expense (benefit) computed by applying the United States Federal corporate income tax rate of 34% to income before tax expense (benefit) as follows:

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

	Year Ended December 31,		
	2016	2015	2014
Computed “expected” tax expense	$(670)	$906	$451
Increase (decrease) in income taxes resulting from:			
State income tax expense, net of federal benefit	(156)	(37)	(31)
State research and development, investment credits	(363)	(317)	(365)
Non-deductible meals & entertainment	49	33	37
Non-deductible stock compensation expense	216	181	29
Non-deductible deferred compensation expense	116	260	87
Non-deductible transaction costs	—	—	73
Subpart F income, net of foreign tax credits	523	61	296
Foreign branch income	52	—	—
Manufacturing deduction	—	(102)	(123)
Nontaxable interest income	(162)	(106)	(105)
Foreign tax rate differential	(1,258)	(792)	(289)
Federal research and development credits	(395)	(348)	(453)
Uncertain tax positions	283	(413)	97
Provision to tax return adjustments	(95)	80	(317)
Change in tax rates	14	(313)	235
Change in valuation allowance	7,425	1,392	1,665
Foreign research and development incentives	(45)	(59)	—
Other	13	(13)	(3)
Net income tax expense	$5,547	$413	$1,284

The components of results of income before income tax expense (benefit) determined by tax jurisdiction, are as follows:

	Year Ended December 31,		
	2016	2015	2014
United States	$(7,775)	$(570)	$907
Foreign	5,805	3,236	418
Total	$(1,970)	$2,666	$1,325

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

The tax effects of temporary differences that give rise to significant portions of deferred tax assets and liabilities for the periods presented are as follows:

	December 31,	
	2016	2015
Deferred tax assets:		
Accounts receivable, due to allowance for doubtful accounts	$1,104	$900
Inventories	792	562
Operating loss carry-forwards	3,078	2,094
Stock-based compensation expense	1,231	1,981
Property and equipment, due to difference in depreciation	148	209
Research and development, alternative minimum tax credit carry-forwards	3,031	3,111
Foreign tax credit carry-forwards	754	—
State tax credit carry-forwards	2,277	2,228
Warranty reserve	822	675
Accrued expenses	432	424
Gross deferred tax assets	13,669	12,184
Less valuation allowance	(11,567)	(4,688)
Total deferred tax assets	2,102	7,496
Deferred tax liabilities:		
Purchased intangible assets	(3,197)	(4,944)
Property and equipment, due to differences in depreciation	(2,003)	(2,849)
Other	(11)	(114)
Total deferred tax liabilities	(5,211)	(7,907)
Net deferred tax liability	$(3,109)	$(411)
Net deferred tax asset—non-current	$24	$4,686
Net deferred tax liability—non-current	$(3,133)	$(5,097)

As of December 31, 2016, the Company had federal research and development tax credit carry-forwards in the amount of $3,875 and other general business credits of $9 that expire in years 2026 through 2036. The Company also had alternative minimum tax credits of $54 that have no expiration date. As of December 31, 2016, the Company had state research and development tax credit carry-forwards in the amount of $3,529 that expire in years 2016 through 2023. The Company also had other state tax credit carry-forwards of $241 available to reduce future state tax expense that expire in years 2018 through 2019. The tax benefit related to $1,571 of federal and state tax credits would result in a credit to additional paid-in capital when these deferred tax assets reduce taxes payable.

The Company’s ability to utilize these net operating loss carry-forwards and tax credit carry-forwards may be limited in the future if the Company experiences an ownership change pursuant to Internal Revenue Code Section 382. An ownership change occurs when the ownership percentages of 5% or greater stockholders change by more than 50% over a three-year period.

In assessing the reliability of its net deferred tax assets, the Company considered whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. As of December 31, 2016, the Company concluded that a net increase of $6,879 of the valuation allowance was appropriate. As part of the Company’s analysis, the Company evaluated, among other factors, its recent history of generating taxable income and its near-term forecasts of future taxable income. The net increase in valuation allowance of $6,879 is composed of expense of $7,425, a decrease of $287 related to the expiration of previously reserved state tax credit carry-forwards, and a decrease of $258 related to the use of net operating loss and credit carryforwards attributed to tax deductions in excess of recognized compensation expense from employee stock compensation awards that existed as of the adoption of ASC

718, Compensation - Stock Compensation. Approximately $454 of the valuation allowance is attributable to tax deductions in excess of recognized compensation cost from employee stock compensation awards that existed as of the adoption of ASC 718. The Company will recognize the net deferred tax asset and corresponding

benefit to additional paid-in capital for these windfall tax benefits once such amounts reduce income taxes payable, in accordance with the requirements of ASC 718.

As of December 31, 2016, the Company has not provided for U.S. deferred income taxes on undistributed earnings of its foreign subsidiaries of approximately $14,543 since these earnings are expected to be indefinitely reinvested. Upon distribution of those earnings in the form of dividends or otherwise, the Company will be subject to additional U.S. and state income taxes (less foreign tax credits), as well as withholding taxes in its foreign locations. The amount of taxes attributable to the undistributed earnings is not practicably determinable.

The Company establishes reserves for uncertain tax positions based on management’s assessment of exposure associated with tax deductions, permanent tax differences, and tax credits. The tax reserves are analyzed periodically and adjustments are made as events occur to warrant adjustment to the reserve. The Company's policy is to recognize interest and penalties related to unrecognized tax benefits as a component of income tax expense.

During the years ended December 31, 2016, 2015, and 2014, the aggregate changes in the total gross amount of unrecognized tax benefits are summarized as follows:

	Year Ended December 31,		
	2016	2015	2014
Unrecognized tax benefits as of January 1	$983	$2,487	$—
Gross increase in unrecognized tax benefits - prior year tax positions	—	168	—
Gross decrease in unrecognized tax benefits due to currency fluctuations - prior year tax positions	(131)	(116)	—
Gross increase in unrecognized tax benefits - current year tax position	293	13	14
Settlements with taxing authorities	(330)	(1,569)	—
Lapse of statute of limitations	—	—	—
Positions assumed in Videotel transaction	—	—	2,473
Ending balance	$815	$983	$2,487

The Company had gross unrecognized tax benefits of $815, $983, and $2,487 as of December 31, 2016, 2015, and 2014, respectively. $815, $983, and $1,172 represent the amount of unrecognized tax benefits that, if recognized, would result in a reduction of the Company's effective tax rate at December 31, 2016, 2015, and 2014, respectively.

The Company recorded interest and penalties of $40, $78, and $84 in its statement of operations for the years ended December 31, 2016, 2015, and 2014, respectively. The combined amount of accrued interest and penalties related to tax positions taken on our tax returns and included in non-current income taxes payable was approximately $545, $468, and $1,067 as of December 31, 2016, 2015, and 2014, respectively.

The timing of any resolution of income tax examinations is highly uncertain, as are the amounts and timing of any settlement payment. These events could cause fluctuations in the balance sheet classification of current and non-current assets and liabilities. The Company does not expect a reduction of unrecognized tax benefits within the next twelve months.

The Company’s tax jurisdictions include the United States, the UK, Denmark, Cyprus, Norway, Brazil, Singapore, Belgium, Bermuda, the Netherlands, Hong Kong, 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 2013, 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.

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

(9) Acquisition

On July 2, 2014, KVH Media Group Limited (KMG UK), an indirectly wholly owned subsidiary of KVH, entered into a Share Purchase Agreement with Nigel Cleave to acquire all of the issued share capital of Super Dragon Limited and Videotel Marine Asia Limited, for an aggregate purchase price of approximately $47,446, which excluded $1,719 of cash consideration that was considered deferred compensation in purchase accounting. The Company expensed approximately $358 and $770 related to the deferred compensation during the year ended December 31, 2016 and 2015, respectively. Videotel is a maritime training services company headquartered in London that produces and distributes training films and eLearning computer-based training courses to commercial customers in the maritime market. Videotel also has sales offices in Hong Kong and Singapore. The purchase price was determined through arm's-length negotiation and was subject to a potential post-closing adjustment based on the value of the net assets delivered at the closing. In the second quarter of 2015, the Company finalized its valuations of the fair value of the assets acquired and liabilities assumed, which resulted in no adjustments to the purchase price.

The Share Purchase Agreement contains certain representations, warranties, covenants and indemnification provisions. The Share Purchase Agreement provides that 10% of the purchase price would be held in escrow for a period of approximately 21 months after the closing in order to satisfy valid indemnification claims that KMG UK may assert for specified breaches of representations, warranties and covenants. The escrow and holdback amounts of approximately $6,000 were fully funded during the first quarter of 2015. In April 2016, approximately $600 of the $4,400 total escrow funds were released to the Company to cover post-completion accounts receivable write-offs and the balance was released to the seller. The holdback of approximately $1,600 was released to the seller in July 2016. In the Share Purchase Agreement, Mr. Cleave agreed to comply with certain confidentiality, non-competition and non-solicitation covenants with respect to the business of Videotel for a period of 18 months after the closing.

The total purchase price and the excess of the total purchase price over the estimated fair value of the net assets acquired are as follows:

Consideration transferred - cash		$47,446
Book value of tangible net assets acquired	$1,732	
Fair value adjustments to deferred revenue	961	
Fair value of tangible net assets acquired		$2,693
Identifiable intangibles at acquisition-date fair value		
Subscriber relationships	$12,759	
Proprietary content	9,814	
Internally developed software	2,160	
Favorable operating leases	791	
Total intangible assets		$25,524
Deferred income taxes		(3,922)
Goodwill		$23,151

The acquired finite-lived intangible assets from the Videotel acquisition were recorded at their estimated fair value of $25,524 on the acquisition date. Refer to Note 1 and Note 10 for the classification of Videotel intangible assets including their useful lives.

From the acquisition on July 2, 2014 through December 31, 2016, the Company has recorded approximately $55,100 of service revenues attributable to Videotel within its consolidated financial statements, of which approximately $21,500 was recorded during the year ended December 31, 2016. Transaction costs related to the acquisition of Videotel were $1,200 for the year ended December 31, 2014.

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

The following table summarizes the supplemental statements of operations information on an unaudited pro forma basis as if the Videotel acquisition had occurred on January 1, 2013:

	Year Ended December 31, 2014
Pro forma net revenues	$ 183,886
Pro forma net income	$ 2,386
Basic pro forma net income per share	$ 0.15
Diluted pro forma net income per share	$ 0.15

The pro forma results presented above are for illustrative purposes only for the periods presented and do not purport to be indicative of the actual results which would have occurred had the transaction been completed as of the beginning of the period, nor are they indicative of results of operations which may occur in the future.

(10) Goodwill and Intangible Assets

The Company's goodwill and intangible assets are associated with the purchase of Virtek Communication (now KVH Industries Norway AS) in September 2010, Headland Media Limited (now known as the KVH Media Group) in May 2013, and Videotel in July 2014.

Intangible assets are subject to amortization. The following table summarizes other intangible assets as of December 31, 2016 and 2015, respectively:

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value
December 31, 2016			
Subscriber relationships	$ 16,888	$ 6,431	$ 10,457
Distribution rights	4,122	1,180	2,942
Internally developed software	2,301	1,904	397
Proprietary content	7,960	4,431	3,529
Intellectual property	2,284	2,056	228
Favorable lease	627	342	285
	$ 34,182	$ 16,344	$ 17,838
December 31, 2015			
Subscriber relationships	$ 19,161	$ 4,426	$ 14,735
Distribution rights	4,736	895	3,841
Internally developed software	2,457	1,244	1,213
Proprietary content	8,812	2,879	5,933
Intellectual property	2,283	1,729	554
Favorable lease	696	217	479
	$ 38,145	$ 11,390	$ 26,755

The Company amortizes its intangible assets over the estimated useful lives of the respective assets as discussed above in our Summary of Significant Accounting Policies. Amortization expense related to intangible assets was $4,956, $5,526, and $3,859 for years ended December 31, 2016, 2015, and 2014, respectively.

93

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

Amortization expense related to intangible assets for the years ended December 31, 2016, 2015, and 2014 was as follows:

Expense Category	2016	2015	2014
Cost of service sales	$2,068	$1,978	$1,123
General administrative expense	2,888	3,548	2,736
Total amortization expense	$4,956	$5,526	$3,859

As of December 31, 2016, the total weighted average remaining useful lives of the definite-lived intangible assets was 5.2 years and the weighted average remaining useful lives by the definite-lived intangible asset category are as follows:

Intangible Asset	Weighted Average Remaining Useful Life in Years
Subscriber relationships	5.8
Distribution rights	11.3
Internally developed software	1.4
Proprietary content	2.5
Intellectual property	0.8
Favorable lease	2.5

Estimated future amortization expense for intangible assets recorded by the Company at December 31, 2016 is as follows:

Years ending December 31,	Amortization Expense
2017	$ 4,129
2018	3,720
2019	2,842
2020	2,084
2021	2,084
Thereafter	2,979
Total amortization expense	$ 17,838

The changes in the carrying amount of intangible assets during the year ended December 31, 2016 is as follows:

	2016
Balance at January 1	$26,755
Amortization expense	(4,956)
Foreign currency translation adjustment	(3,961)
Balance at December 31	$17,838

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

Goodwill is recorded when the consideration for an acquisition exceeds the fair value of net tangible and identifiable intangible assets acquired. All of the Company's goodwill as of December 31, 2016 relates to its mobile connectivity reportable segment. None of the Company's goodwill is deductible for tax purposes. The changes in the carrying amount of goodwill during the year ended December 31, 2016 is as follows:

	Goodwill
Balance at January 1, 2015	$40,454
Foreign currency translation adjustment	$(3,707)
Balance at December 31, 2015	$36,747
Foreign currency translation adjustment	(5,404)
Balance at December 31, 2016	$31,343

(11) 401(k) Plan

The Company has a 401(k) Plan (the Plan) for all eligible employees. Participants may defer a portion of their pre-tax earnings subject to limits determined by the Internal Revenue Service. Participants age 50 or older may be eligible to make additional contributions. As of December 31, 2016, the Company matches one half of the first 6% contributed by the Plan participants. The Company’s contributions vest over a five-year period from the date of hire. Total Company matching contributions were $671, $608, and $462 for the years ended December 31, 2016, 2015, and 2014, respectively. In addition, the Company may make contributions to the Plan at the discretion of the Compensation Committee of the Board of Directors. There were no discretionary contributions in 2016, 2015, or 2014.

(12) Business and Credit Concentrations

The Company had no customers that accounted for 10% or more of its consolidated net sales for the years ended December 31, 2016, 2015, and 2014, respectively. The Company had one customer that accounted for 17% of accounts receivable as of December 31, 2015, and all amounts were collected within 2016 in accordance with the contractual payment terms. The Company had no customers who account for 10% or more of the Company's consolidated accounts receivable as of December 31, 2016 or December 31, 2014.

(13) Segment Reporting

During the fourth quarter of 2016, the Company had a change in its operating and reportable segments. This change was a result of the following:

- Changes in overall organizational structure, including appointments of a Chief Operating Officer and a new Chief Financial Officer
- Changes in how financial performance is measured and assessed based on current operating results and planned future operations driven by completion of the Company’s fiscal 2017 and long-term planning process
- Consideration regarding how incentive compensation for key executives will be measured for both 2016 and prospectively.

Therefore, in the fourth quarter of 2016, the Company concluded that it has two new operating segments, which are also reportable segments, and were organized based on products and services. The Company’s reportable segments are:

- Mobile connectivity, and
- Inertial navigation

The Company’s Chief Operating Decision Maker (CODM), whom the Company has identified as its Chief Executive Officer, primarily evaluates the business and assesses performance based on the revenue and operating income of the segments. The Company does not allocate interest, taxes, and certain corporate-level costs to its reportable segments, as discussed further below.

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

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 contributes to the shared costs. Certain corporate-level costs have not been allocated as they are not attributable to either segment. These costs primarily consist of broad corporate functions, including executive, legal, finance, and costs associated with corporate actions. Segment-level asset information has not been provided as such information is not reviewed by the CODM 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 approximately 23%, 23% and 25% of our consolidated net sales for 2016, 2015 and 2014, respectively. Sales of mini-VSAT Broadband airtime service accounted for approximately 37%, 35%, and 35% of our consolidated net sales for 2016, 2015, 2014, respectively. Sales of content and training sales within the mobile connectivity segment accounted for approximately 20%, 21% and 14% of our consolidated net sales for 2016, 2015 and 2014, respectively.
The inertial navigation segment manufactures and distributes a portfolio of digital compass and fiber optic gyro (FOG)-based systems that address the rigorous requirements of military and commercial customers and provide reliable, easy-to-use and continuously available navigation and pointing data. The principal product categories in this segment include the FOG based inertial measurement units (IMUs) for precision guidance, FOGs for tactical navigation as well as pointing and stabilization systems, and digital compasses that provide accurate heading information for demanding applications, security, automation and access control equipment and systems. Sales of FOG-based guidance and navigation systems within the inertial navigation segment accounted for approximately 10%, 10%, and 12% of consolidated net sales for 2016, 2015, and 2014, respectively. Sales of tactical guidance and navigation systems within the inertial navigation segment accounted for approximately 8%, 8%, and 11% of consolidated net sales for 2016, 2015, and 2014, respectively.

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

The Company operates in a number of major geographic areas, including internationally. Revenues from international locations, primarily consisting of Canada, European countries, both inside and outside the European Union, as well as Africa, Asia/Pacific, the Middle East, and India. Revenues are based upon customer location and internationally represented 63%, 67%, and 58% of consolidated net sales for 2016, 2015 and 2014, respectively. Sales to Canada represented 11% and 10% of net sales for 2016 and 2015, respectively. No other individual foreign country represented 10% or more of the Company's consolidated net sales for 2016 or 2015, respectively. No individual foreign country represented 10% or more of the Company's consolidated net sales for 2014.

As of December 31, 2016 and 2015, the long-lived tangible assets related to the Company's international subsidiaries were less than 10% of the Company's long-lived tangible assets and were deemed not material.

96

Table of Contents
KVH INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)
December 31, 2016, 2015, and 2014
(in thousands except per share amounts)

Net sales and operating earnings (loss) for the Company's reporting segments and the Company's loss (income) before benefit from income taxes for the years ended December 31, 2016, 2015, and 2014 were as follows:

	For the year ended December 31,		
	2016	2015	2014
Net sales:			
Mobile connectivity	$141,507	$147,809	$129,819
Inertial navigation	34,615	36,825	42,772
Consolidated net sales	$176,122	$184,634	$172,591
Operating earnings (loss):			
Mobile connectivity	$10,041	$9,459	$5,056
Inertial navigation	5,272	7,934	10,431
Subtotal	15,313	17,393	15,487
Unallocated, net	(16,635)	(14,185)	(13,565)
Consolidated operating earnings	(1,322)	3,208	1,922
Net interest and other expense	(648)	(542)	(597)
(Loss) income before income tax expense	$(1,970)	$2,666	$1,325

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

	For the year ended December 31,		
	2016	2015	2014
Depreciation expense:			
Mobile connectivity	6,084	5,843	4,827
Inertial navigation	1,063	961	935
Unallocated	461	389	365
Total consolidated depreciation expense	7,608	7,193	6,127
Amortization expense:			
Mobile connectivity	4,956	5,526	3,859
Inertial navigation	—	—	—
Unallocated	—	—	—
Total consolidated amortization expense	4,956	5,526	3,859

(14) Share Buyback Program

On November 26, 2008, the Company’s Board of Directors authorized a program to repurchase up to 1,000 shares of the Company’s common stock. As of December 31, 2016, 341 shares of the Company’s common stock remain available for repurchase under the authorized program. The repurchase program is funded using the Company’s existing cash, cash equivalents, marketable securities and future cash flows. Under the repurchase program, the Company, at management’s discretion, may repurchase shares on the open market from time to time, in privately negotiated transactions or block transactions, or through an accelerated repurchase agreement. The timing of such repurchases depends on availability of shares, price, market conditions, alternative uses of capital, and applicable regulatory requirements. The program may be modified, suspended or terminated at any time without prior notice. The repurchase program has no expiration date. There were no other

97

repurchase programs outstanding during the year ended December 31, 2016 and no repurchase programs expired during the period.

During the years ended December 31, 2016, 2015, and 2014, the Company did not repurchase any shares of its common stock in open market transactions.

(15) Fair Value Measurements

ASC 820, Fair Value Measurements and Disclosures, 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, United States treasuries, and certificates of deposit.

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

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

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

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

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

The following tables present financial assets and liabilities at December 31, 2016 and December 31, 2015 for which the Company measures fair value on a recurring basis, by level, within the fair value hierarchy:

Table of Contents

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

December 31, 2015	Total	Level 1	Level 2	Level 3	Valuation Technique
Assets					
Money market mutual funds	$13,244	$13,244	$ —	$ —	(a)
United States treasuries	1,002	1,002	—	—	(a)
Corporate notes	2,284	—	2,284	—	(a)
Certificates of deposit	6,089	6,089	—	—	(a)
Liabilities					
Interest rate swaps	$238	$—	$ 238	$ —	(b)

Certain financial instruments are carried at cost on the consolidated balance sheets, which approximates fair value due to their short-term, highly liquid nature. These instruments include cash and cash equivalents, accounts receivable, accounts payable, and accrued expenses.

Assets Measured and Recorded at Fair Value on a Nonrecurring Basis

The Company's non-financial assets, such as goodwill, intangible assets, and other long-lived assets resulting from business combinations, are measured at fair value using income approach valuation methodologies at the date of acquisition and subsequently re-measured if an impairment exists. There were no impairments of the Company’s non-financial assets noted as of December 31, 2016 or 2015. The Company does not have any liabilities that are recorded at fair value on a non-recurring basis.

(16) Derivative Instruments and Hedging Activities

Effective April 1, 2010, in order to reduce the volatility of cash outflows that arise from changes in interest rates, the Company entered into two interest rate swap agreements. These interest rate swap agreements are intended to hedge the Company’s mortgage loan related to its headquarters facility in Middletown, Rhode Island by fixing the interest rates specified in the mortgage loan to 5.9% for half of the principal amount outstanding and 6.1% for the remaining half of the principal amount outstanding as of April 1, 2010 until the mortgage loan expires on April 16, 2019. The Company does not use derivatives for speculative purposes. For a derivative that is designated as a cash flow hedge, changes in the fair value of the derivative are recognized in accumulated other comprehensive income ("AOCI") to the extent the derivative is effective at offsetting the changes in the cash flows being hedged until the hedged item affects earnings. To the extent there is any hedge ineffectiveness, changes in fair value relating to the ineffective portion are immediately recognized in earnings in other income (expense) in the Consolidated Statements of Income. The interest rate swap is recorded within accrued other liabilities on the balance sheet. The critical terms of the interest rate swaps were designed to mirror the terms of the Company’s mortgage loans. The Company designated these derivatives as cash flow hedges of the variability of the LIBOR-based interest payments on principal over a nine-year period, which ends on April 1, 2019. As of December 31, 2016, the Company determined that the existence of hedge ineffectiveness, if any, was immaterial and all changes in the fair value of the interest rate caps were recorded in the Consolidated Statements of Comprehensive (Loss) Income as a component of AOCI.

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

Interest Rate Derivatives	Notional (in thousands)	Asset (Liability)	Effective Date	Maturity Date	Index	Strike Rate

Interest rate swap	$ 1,476	(76)	April 1, 2010	April 1, 2019	1-month LIBOR	5.91	%
Interest rate swap	$ 1,476	(82)	April 1, 2010	April 1, 2019	1-month LIBOR	6.07	%

(17) Legal Matters

Table of Contents

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

Advanced Media Networks, L.L.C., or AMN, filed suit in the United States District Court for the District of Rhode Island against us for allegedly infringing two of its patents, seeking unspecified monetary damages and other relief. The Company settled this claim in January 2016 with a payment of cash to AMN.

(18) Quarterly Financial Results (Unaudited)

The following financial information for interim periods includes transactions which affect comparability of the quarterly results for the years ended December 31, 2016 and 2015.
Financial information for interim periods was as follows:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	(in thousands, except per share amounts)			
2016				
Product sales	$15,382	$20,062	$19,020	$18,611
Service sales	24,998	25,904	26,826	25,319
Cost of product sales	10,670	12,989	11,001	11,674
Cost of service sales	12,991	13,259	13,576	13,140
Operating expenses	20,093	20,411	18,256	19,384
(Loss) income from operations	(3,374)	(693)	3,013	(268)
Net (loss) income	$(2,791)	$(806)	$2,863	$(6,783)
Net (loss) income per share (a):				
Basic	$(0.18)	$(0.05)	$0.18	$(0.43)
Diluted	$(0.18)	$(0.05)	$0.18	$(0.43)
2015				
Product sales	$15,386	$17,946	$15,622	$27,259
Service sales	25,919	26,909	28,833	26,760
Cost of product sales	10,485	12,017	10,275	14,627
Cost of service sales	13,260	13,693	14,454	13,409
Operating expenses	19,468	19,403	19,520	20,815
(Loss) income from operations	(1,908)	(258)	206	5,168
Net (loss) income	$(1,422)	$37	$(463)	$4,101
Net (loss) income per share (a):				
Basic	$(0.09)	$0.00	$(0.03)	$0.26
Diluted	$(0.09)	$0.00	$(0.03)	$0.26

(a) Net (loss) income per share is computed independently for each of the quarters. Therefore, the net (loss) income per share for the four quarters may not equal the annual net (loss) income per share data.