UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.**

For the fiscal year ended December 31, 2019

or

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

For the transition period from to

Commission file number 000-50350

NETGEAR, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**77-0419172**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
350 East Plumeria Drive,	**95134**
San Jose, California	*(Zip Code)*
(Address of principal executive offices)	

Registrant's telephone number, including area code
(408) 907-8000

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

Title of each class	Trading symbol(s):	Name of each exchange on which registered
Common Stock, $0.001 par value	NTGR	The Nasdaq Stock Market LLC

Securities registered pursuant to 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 ☑

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☑

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definition of “large accelerated filer,” “accelerated filer,” “smaller reporting company”, and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☑
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

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

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the Registrant as of June 30, 2019 was approximately $447.0 million. Such aggregate market value was computed by reference to the closing price of the common stock as reported on the Nasdaq Global Select Market on June 28, 2019 (the last business day of the Registrant's most recently completed fiscal second quarter). Shares of common stock held by each executive officer and director and each entity that owns 5% or more of the outstanding common stock have been excluded in that such persons may be deemed to be affiliates. The determination of affiliate status is not necessarily a conclusive determination for other purposes.

The number of outstanding shares of the registrant's Common Stock, $0.001 par value, was 29,453,998 shares as of February 11, 2020.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the Registrant's 2020 Annual Meeting of Stockholders are incorporated by reference in Part III of this Form 10-K.

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PART I

This Annual Report on Form 10-K ("Form 10-K"), including Management's Discussion and Analysis of Financial Condition and Results of Operations in Part II, Item 7 below, includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements other than statements of historical facts contained in this Form 10-K, including statements regarding our future financial position, business strategy and plans and objectives of management for future operations, are forward-looking statements. The words "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "should," "plan," "expect" and similar expressions, as they relate to us, are intended to identify forward-looking statements. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. These forward-looking statements are subject to a number of risks, uncertainties and assumptions described in "Risk Factors" in Part I, Item 1A below, and elsewhere in this Form 10-K, including, among other things: future demand for our products may be lower than anticipated; consumers may choose not to adopt our new product offerings or adopt competing products; the actual price, performance and ease of use of our products may not meet the price, performance and ease of use requirements of consumers; our dependence on certain significant customers; our reliance on a limited number of third-party suppliers and manufacturers; new cyber threats may challenge the effectiveness or threaten the security of our products; and our business strategies and development plans may not be successful. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this Form 10-K may not occur and actual results could differ materially from those anticipated or implied in the forward-looking statements. All forward-looking statements in this Form 10-K are based on information available to us as of the date hereof, such information may be limited or incomplete, and we assume no obligation to update any such forward-looking statements. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements. The following discussion should be read in conjunction with our consolidated financial statements and the accompanying notes contained in this Form 10-K.

Item 1. *Business*

General

We are a global company that delivers innovative, advanced networking technologies and Internet connected products to consumers, businesses, and service providers. We operate and report in two segments: Connected Home, and Small and Medium Business ("SMB"). The Connected Home segment is focused on consumers and consists of high-performance, dependable and easy-to-use WiFi internet networking solutions such as WiFi mesh systems, routers, 4G/5G mobile products, smart devices such as Meural digital canvasses, and services offering consumers a range of parental controls and cyber security for their home networks. The SMB segment is focused on small and medium-sized businesses and consists of business networking, wireless LAN, storage, and security solutions that bring enterprise-class functionality to small and medium-sized businesses at an affordable price. We conduct business across three geographic territories: Americas; Europe, Middle-East and Africa ("EMEA") and Asia Pacific ("APAC").

On February 6, 2018, we announced that the Board of Directors had unanimously approved the pursuit of a separation of our smart camera business, Arlo, from NETGEAR (the "Separation") to be effected by way of an initial public offering ("IPO") and spin-off ("the Spin-Off"). On December 31, 2018, we completed the Spin-Off of Arlo Technologies, Inc. ("Arlo"), a majority owned subsidiary and reporting segment of NETGEAR at the time. Arlo's historical financial results for periods prior to the Spin-Off are reflected in our consolidated financial statements as discontinued operations for the periods presented. For further details, refer to Note 3, *Discontinued Operations,* in Notes to Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K.

We were incorporated in Delaware on January 8, 1996. Our website address is www.netgear.com.

In the years ended December 31, 2019, 2018, and 2017, we generated net revenue of $998.8 million, $1.06 billion, and $1.04 billion, respectively.

Markets

Our mission is to be the innovative leader in connecting the world to the internet. Our goal includes being the provider of industry-leading networking and smart connected products for consumers, businesses, and service providers. There are a number of factors that are driving today's demand for products within these markets. The ever-growing number of internet connected devices, such as smart phones, laptops, tablets and the advent of Smart Home and Internet-of-Things devices has increased the need for more robust networking solutions. The internet has enabled information and resource sharing via both local area networks, and more broadly via the internet. To take advantage of complex applications, advanced communication capabilities and rich multimedia content, internet connections are being upgraded by deploying high-speed broadband access technologies. Users also seek the convenience and flexibility of simultaneously operating their laptops, smart phones, tablets and related computing devices while accessing their content in a more mobile, or wireless, manner. Increased market demand for Smart Home and internet-connected products, such as Smart TVs, online and cloud gaming consoles, HD streaming players, security cameras, thermostats, smoke detectors, smart speakers and voice controlled assistants, etc., continue to drive new innovations in networking and related service offerings. As a result, the need and desire for more convenience, speed, coverage range, and reliability of an in-home Wi-Fi network as well as mobile cellular networks has become a greater priority among households as well as businesses.

Consumers, businesses and service providers demand a complete set of wired and wireless networking as well as broadband products that are tailored to their specific needs and budgets, while incorporating the latest networking technologies. Although these users desire the continual introduction of new advanced technologies, they often lack technical knowledge and resources. Therefore, a seamless 'plug-and-play' or easy-to-install experience with no need for customer service and support is the expected norm. We have also observed that this audience prefers the convenience of obtaining a networking solution from a single company and we have seen that they tend to be loyal purchasers of a brand with which they have had a good experience. Purchasing decisions in these markets are driven by the affordability and reliability of the products. To provide reliable, easy-to-use products at an attractive price, we believe a successful supplier must have a company-wide focus on the unique requirements of these markets, operational discipline and a cost-efficient infrastructure with processes that allow for efficient product development, manufacturing and distribution.

Sales Channels

We sell our products through multiple sales channels worldwide, including wholesale distributors, traditional and online retailers, direct market resellers ("DMRs"), value-added resellers ("VARs"), broadband service providers and our webstore at www.netgear.com.

Wholesale Distribution. Our distribution channel supplies our products to retailers, e-commerce resellers, DMRs, VARs and broadband service providers. We sell directly to our distributors, the largest of which are Ingram Micro, Inc., D&H Distributing Company and Tech Data Corporation.

Retailers. Our retail channel primarily supplies products that are sold into the consumer market. However, increasingly we are seeing products designed for small and medium-sized businesses move through these channels. We sell directly to, or enter into consignment arrangements with, a number of our traditional and online retailers. The remaining traditional retailers, as well as our online retailers, are fulfilled through wholesale distributors. We work directly with our retail channels on market development activities, such as co-advertising, on-line promotions and video demonstrations, instant rebate programs, event sponsorship and sales associate training. Our largest retailers include Best Buy Co., Inc., Amazon.com, Inc. and their affiliates.

DMRs and VARs. We sell into the business marketplace through an extensive network of DMRs and VARs. Our DMRs include companies such as CDW and Insight. VARs include our network of registered NETGEAR Solution Partners. DMRs and VARs may receive sales incentives, marketing support and other program benefits from us. Our DMRs and VARs generally purchase our products through our wholesale distributors.

Broadband Service Providers. We also supply directly to broadband service providers in the United States and internationally providing cable, DSL and 4G/5G mobile broadband products. Service providers supply our products to their business and home subscribers. Our largest broadband service providers include AT&T and Telstra.

The largest portion of our net revenues was derived in the Americas in the year ended December 31, 2019. Americas sales as a percentage of net revenue was 65.4% in the year ended December 31, 2019, down from 66.2% in the year ended December 31, 2018. We have continuously committed resources to our international operations and sales channels. Accordingly, we are subject to a number of risks related to international operations such as macroeconomic and microeconomic conditions, geopolitical instability, preference for locally branded products, exchange rate fluctuations, increased difficulty in managing inventory, challenges of staffing and managing foreign operations, the effect of international sales on our tax structure, and changes in local tax laws. For further information regarding these risks, refer to Item 1A, Risk Factors of Part I of this Annual Report on Form 10-K.

Best Buy Co., Inc. and affiliates and Amazon and affiliates each accounted for 10% or more of net revenue for the year ended December 31, 2019, 2018 and 2017, respectively.

Product Offerings

Our products are designed to simplify and improve people's lives. Our goal is to enable people to collaborate and connect to a world of information and entertainment. We are dedicated to delivering innovative and advanced connected solutions ranging from mobile and cloud-based services for enhanced control and security, to smart networking products, video over Ethernet for Pro AV applications, easy-to-use WiFi solutions and performance gaming routers to enhance console, online and cloud game play. Our products are built on a variety of proven technologies such as wireless (WiFi and 4G/5G mobile), Ethernet and powerline, with a focus on reliability and ease-of-use. Our product line consists of devices that create and extend wired and wireless networks as well as devices that provide a special function and attach to the network, such as digital canvasses and smart mesh WiFi speakers. These products are available in multiple configurations to address the changing needs of our customers in each geographic region in which our products are sold. Auxiliary to these hardware offerings, we have added services for our installed base of customers through applications available via subscription models that deliver more features that enhance the experience with our products.

Smart Home / Connected Home / Broadband access. Products that create and extend wired and wireless networks in homes and small businesses to connect devices to the internet, enable connection to broadband networks, as well as devices that connect to the internet in delivering functionality. These products are sold primarily via brick and mortar retail, e-commerce, and service provider channels and include:

- Broadband modems, which are devices that convert the broadband signals into Ethernet data that feeds Internet into homes and offices. We provide modems that connect to DOCSIS 3.x, xDSL, FTTx, and 4G/5G mobile;
- WiFi Gateways, which are WiFi routers with an integrated broadband modem, for broadband Internet access;
- WiFi Hotspots, which create mobile WiFi Internet access that utilizes 4G/5G mobile and 5G data networks for use on the go, and at home in place of traditional wired broadband, Internet access;
- WiFi routers and home WiFi Systems, which create a local area network (LAN) for home or office computer, mobile and Smart Devices to connect and share a broadband Internet connection;
- WiFi range extenders, which extend the range of an existing WiFi network to eliminate WiFi dead spots;
- Powerline adapters and bridges, which extend wired and WiFi Internet connections to any AC outlet using existing electrical wiring;
- WiFi network adapters, which enable computing devices to be connected to the network via WiFi;
- Digital Canvasses, which enable users to display digital art and photos; and
- Value added service offerings such as technical support, parental controls and cybersecurity protection for consumers.

Small and Medium business solutions. These products are sold into the small and medium business marketplace through an extensive network of DMRs and VARs, and increasingly through brick and mortar retail and e-commerce channels and include:

- Ethernet switches, which are multiple port devices used to network computing devices and peripherals via Ethernet wiring;

- Wireless controllers, access points and WiFi systems, which are devices used to manage and control WiFi on a campus or a facility providing WiFi connections to smart phones, tablets, laptops and other computing devices; and

- Unified storage, Internet security appliances, and NETGEAR Insight services, all of which provide a suite of networking solutions to small enterprises, education, hospitality and health markets through easy-to-use interfaces, providing capabilities such as firewalls and Virtual Private Networks (VPNs) and the ability to for small businesses to deploy, monitor, manage and secure their networks easily and seamlessly.

We design our products and services to meet the specific needs of the consumer, business and service provider markets, tailoring various elements of the software interface, the product design, including component specification, physical characteristics such as casing, design and coloration, and specific user interface features to meet the needs of these markets. We also leverage many of our technological developments, high volume manufacturing, technical support and engineering infrastructure across our markets to maximize business efficiencies.

Our products that target the business market are generally designed with an industrial appearance, including metal cases and, for some product categories, the ability to mount the product within standard data networking racks as well as unique mounting solutions for other uses. These products typically include higher port counts, higher data transfer rates and other performance characteristics designed to meet the needs of a business user. For example, we offer data transfer rates up to ten gigabits per second for our business products to meet the higher capacity requirements of business users. Our newest business POE++ switches, including cloud managed and unmanaged POE switches, provide elevated power budgets and uninterrupted PoE++ power for businesses of all sizes to address the growing need for deployment of multiple POE devices with more power, due to the widespread adoption of IP communication, security cameras, WiFi access points, proximity sensors, and various other new applications. Some of these products are also designed to support transmission modes such as fiber optic cabling, which is common in more sophisticated business environments. Security requirements within our products for business broadband access include firewall and VPN capabilities that allow for secure interactions between remote offices and business headquarter locations over the internet. Our connectivity product offerings for the business market include enhanced security and remote configurability often required in a business setting.

Our vision for the home network is about intelligently controlling and monitoring all devices connected to the home network at all times, thus creating a Smart Environment. Our focus is to continue to introduce new products and services into growth areas that form the basis of Smart Homes, such as: the fastest WiFi standards with broadest coverage via latest technology (802.11ax) WiFi routers and home WiFi systems; high speed DOCSIS 3.1, xDSL and fiber gateways with more integrated functions; 5G mobile gateways and mobile hotspots; Digital Canvasses; and other automation devices. We continue to announce and introduce new products in these key markets.

Our vision for the business network is to increase the effectiveness, efficiency and supportability of the hybrid cloud access network. We believe small and medium-sized enterprises will continue to move into cloud-based applications, such as: Salesforce.com, Ring Central, Zoom video conferencing, SuccessFactors, Workday, and others. In addition, we believe these enterprises will move into utility-like on demand computing power supplied by third-party data centers. Also, increasingly more enterprises are enabling the BYOD (bring your own device) environment allowing smart phones, tablets, and netbooks to be the business computing devices of choice. We believe that the need for cost efficient and easy-to-use video surveillance by small businesses and corporate offices will continue to grow and fuel the growth of our POE(+) market, with its ability to power 4K cameras. These trends will place a greater demand on business networks. To meet this demand we are introducing next generation technology, such as: Enhanced Power over Ethernet (PoE) switches, Multi-gigabit Ethernet switches, Wi-Fi mesh systems, high capacity local and remote unified storage, small to medium capacity campus wireless LAN, and security appliances. In addition, our Insight line of cloud-connected networking devices can be managed remotely and securely via mobile Apps or Browser interfaces, providing continuous monitoring and instantaneous fault notification.

Competition

The consumer, business and service provider markets are intensely competitive and subject to rapid technological change. We expect competition to continue to intensify. Our principal competitors include:

- within the consumer markets, companies such as ARRIS, ASUS, AVM, Linksys (owned by Foxconn), Devolo, D-Link, Eero (owned by Amazon), Lenovo, Nest (owned by Google), Samsung, Synology, and TP Link;

- within the business markets, companies such as Allied Telesys, Barracuda, Buffalo, Cisco Systems, Dell, D-Link, Fortinet, Hewlett-Packard Enterprise, QNAP Systems, Seagate Technology, SonicWall, Synology, TP Link, Ubiquiti, WatchGuard and Western Digital; and

- within the service provider markets, companies such as Actiontec, Airties, Arcadyan, ARRIS, ASUS, AVM, Compal Broadband, D-Link, Eero (owned by Amazon), Franklin, Google, Hitron, Huawei, Novatel Wireless, Plume, Sagem, Sercomm, SMC Networks, TechniColor, TP-Link, Ubee, ZTE and ZyXEL.

Our potential competitors include other consumer electronics vendors, including Apple, LG Electronics, Microsoft, Panasonic, Sony, Toshiba and Vizio, who could integrate networking and streaming capabilities into their line of products, such as televisions, set top boxes, voice assistants and gaming consoles, and our channel customers who may decide to offer self-branded networking products. We also face competition from service providers who may bundle a free networking device with their broadband service offering, which would reduce our sales if we were not the supplier of choice to those service providers. In the service provider space, we also face significant and increased competition from original design manufacturers ("ODMs") and contract manufacturers ("CMs") who are selling and attempting to sell their products directly to service providers around the world.

Many of our existing and potential competitors have longer operating histories, greater name recognition and substantially greater financial, technical, sales, marketing and other resources. As a result, they may have more advanced technology, larger distribution channels, stronger brand names, better customer service and access to more customers than we do. For example, Hewlett-Packard Enterprise has significant brand name recognition and has an advertising presence substantially greater than ours. Similarly, Cisco Systems is well recognized as a leader in providing networking products to businesses, while Google competes in the consumer Wi-Fi product market, and both have substantially greater financial resources than we do. Several of our competitors, such as TP-Link, offer a range of products that directly compete with most of our product offerings. Several of our other competitors primarily compete in a more limited manner. For example, Cisco and Dell sell networking products primarily targeted at larger businesses or enterprises. However, the competitive environment in which we operate changes rapidly. Other companies with significant resources could also become direct competitors, either through acquiring a competitor or through internal efforts.

We believe that the principal competitive factors in the consumer, business and service provider markets for networking products include product breadth, size and scope of the sales channel, brand name, timeliness of new product introductions, product availability, performance, features, functionality and reliability, price, ease-of-installation, maintenance and use, and customer service and support. We believe our products are competitive in these markets based on these factors.

To remain competitive, we must invest significant resources in developing new products and enhancing our current products while continuing to expand our sales channels and maintaining customer satisfaction worldwide.

Research and Development

Our success depends on our ability to develop products that meet changing user needs and to anticipate and proactively respond to evolving technology in a timely and cost-effective manner. Accordingly, we have made investments in our research and development department in order to effectively evaluate existing and new third-party technologies, develop existing and new in-house technologies, and develop and test new products and services. Our research and development employees work closely with our technology and manufacturing partners to bring our products and services to market in a timely, high quality and cost-efficient manner.

We identify, qualify or self-develop new technologies to develop products using one or more of the methodologies described below.

ODM. Under the ODM methodology, we define the product concept and specification and recommend the technology selection. We then coordinate with our technology suppliers while they develop the product meeting our specification. On certain new products, one or more subsystems of the design can be done in-house and then integrated with the remaining design pieces from the ODM. Once prototypes are completed, we work with our partners to complete the debugging and systems integration and testing. After completion of the final tests, agency approvals and product documentation, the product is released for production.

In-House Development. Under the in-house development model, one or more subsystems of the product are designed and developed utilizing the NETGEAR engineering team. Under this model, some of the primary technology is developed in-house. We then work closely with either an ODM or a Joint Development Manufacturer ("JDM") to complete the development of the entire design, perform the necessary testing, and obtain regulatory approvals before the product is released for production.

Manufacturing

Our primary manufacturers are Cloud Network Technology (more commonly known as Hon Hai Precision or Foxconn Corporation), Delta Electronics Incorporated, Wistron NeWeb Corporation, and Pegatron Corporation, all of which are headquartered in Taiwan. In the fourth quarter of 2019, we commenced manufacturing in Haiphong, Vietnam at a new facility owned by Shenzhen Gongjin Electronics Co., Ltd. (more commonly known as T&W), which is headquartered in China. Beginning in September 2018 and upon the introduction of Section 301 tariffs by the US government on a significant number of US bound products manufactured in China, we migrated manufacturing locations away from mainland China in 2019 and substantially all of our manufacturing relating to US bound products occurs in Vietnam, Thailand, Indonesia and Taiwan. We plan to transfer the balance of U.S. bound products out of China in the first quarter of 2020. We distribute our manufacturing among our key suppliers to avoid excessive concentration with a single supplier. However, there has been an increase in supplier concentration since 2015 and we expect this concentration to continue over the course of 2020. Any disruptions from natural disasters, health epidemics and political, social and economic instability would affect the ability of our manufacturers to manufacture our products. If our manufacturing or warehousing facilities are disrupted or destroyed, we would not have readily available alternatives for manufacturing our products and our business would be significantly impacted. In addition to their responsibility for the manufacturing of our products, our manufacturers typically purchase all necessary parts and materials to produce finished goods. To maintain quality standards for our suppliers, we have established our own product quality organization based in Hong Kong and mainland China. The organization is responsible for auditing and inspecting process and product quality on the premises of our ODMs.

We obtain several key components from limited or sole sources. These include many of the semiconductors used in our products, which are designed specifically for the products and obtained from sole source suppliers on a purchase order basis like switching fabric semiconductors used in our Ethernet switches and internet gateway products; wireless local area network chipsets used in our wireless products and mobile network chipsets which are used in our wireless gateways and hotspots. We also have limited sources for components including connector jacks, plastic casings and physical layer transceivers. Our third-party manufacturers generally purchase these components on our behalf on a purchase order basis. If these sources fail to satisfy our supply requirements, our ability to meet scheduled product deliveries would be harmed and we may lose sales and experience increased component costs.

We currently outsource warehousing and distribution logistics to four main third-party providers who are responsible for warehousing, distribution logistics and order fulfillment. In addition, these parties are also responsible for some configuration and re-packaging of our products including bundling components to form kits, inserting appropriate documentation, disk drive configuration, and adding power adapters. APL Logistics Americas, Ltd. in City of Industry, California serves the Americas region, Kerry Logistics Ltd. in Hong Kong serves the Asia Pacific region, DSV Solutions B.V. Netherlands serves the EMEA region, and Brightstar Logistics Pty Ltd. in Melbourne, VIC, Australia serves Australia and New Zealand.

Sales and Marketing

We work directly with our customers on market development activities, such as co-advertising, online promotions and video demonstrations, event sponsorship and sales associate training. We also participate in major industry trade shows and marketing events. Our marketing department is comprised of our channel marketing, product marketing and corporate marketing groups.

Our channel marketing team focuses on working with the sales teams to maximize our participation in channel partner marketing activities and merchandise our products both online and in store.

Our product marketing group focuses on product strategy, product development roadmaps, the new product introduction process, product lifecycle management, demand assessment and competitive analysis. The group works closely with our sales and research and development groups to align our product development roadmap to meet customer technology demands from a strategic perspective. The group also ensures that product development activities, product launches, and ongoing demand and supply planning occur in a well-managed, timely basis in coordination with our development, manufacturing, and sales groups, as well as our ODM and sales channel partners.

Our corporate marketing group is responsible for defining and building our corporate brand and supporting the business units with creative and marketing strategies and tactics. The group focuses on defining our brand promise and marketing messages on a worldwide basis. This group is also responsible for driving awareness and demand of NETGEAR products through paid, earned and owned channels to reach and acquire new customers. Marketing tactics include driving the social media and online marketing strategy, public relations, install base marketing programs, community engagement programs, sponsorships and events, and corporate websites worldwide, as well as creative production for all product categories.

We conduct most of our international sales and marketing operations through wholly-owned subsidiaries, which operate via sales and marketing subsidiaries and branch offices worldwide.

Customer Support

We design our products with ease-of-use top of mind. We respond globally to customer inquiries through a variety of channels including phone, chat, community, social, and email. Customers can also get self-help service through the comprehensive knowledgebase and the user forum from our website. Customer support is provided through a combination of a limited number of permanent employees and use of subcontracted, out-sourced resources. Our permanent employees design our technical support database and are responsible for training and managing our outsourced sub-contractors. They also handle escalations from the outsourced resources. We utilize the information gained from customers by our customer support organization to enhance our product offerings, including further simplifying the installation process. In 2018 we migrated to a unified platform to create efficiency and improve our customer experience.

Intellectual Property

We believe that our continued success will depend primarily on the technical expertise, speed of technology implementation, creative skills and management abilities of our officers and key employees, plus ownership of a limited but important set of copyrights, trademarks, trade secrets and patents. We primarily rely on a combination of copyright, trademark, trade secret, and patent laws, nondisclosure agreements with employees, consultants and suppliers and other contractual provisions to establish, maintain and protect our proprietary rights. We hold approximately 208 issued United States patents that expire between years 2020 and 2037 and 80 foreign patents that expire between 2020 and 2035. In addition, we currently have approximately 67 pending United States and foreign patent applications related to technology and products offered by us. We also rely on third-party licensors for patented hardware and software license rights in technology that are incorporated into and are necessary for the operation and functionality of our products. Our success will depend in part on our continued ability to have access to these technologies.

We have trade secret rights for our products, consisting mainly of product design, technical product documentation and software. We also own, or have applied for registration of trademarks, in connection with our products in the United States and internationally, including NETGEAR, NETGEAR Armor, NPG, NPG logo, Everybody's Connecting, AirCard, AirCard Enabled, Around Town, Orbi, Genie, Genie+, the Genie logo, ReadyShare, ProSafe, RangeMax, ReadyNAS, ReadyDrop, ReadyData, ReadyCloud, ReadyStore, Streampro, Centria, My Media, Nighthawk, Nighthawk x4, Nighthawk x6, Zing Mobile Hotspot, Mingle, Ufast, NETGEAR Insight, NETGEAR UP, FASTLANE, FASTLANE3, Meural, Trueart, Digital Canvas, Watcher, and X-RAID.

We have registered a number of internet domain names that we use for electronic interaction with our customers including dissemination of product information, marketing programs, product registration, sales activities, and other commercial uses.

Seasonal Business

We have historically experienced increased net sales in our third and fourth fiscal quarters as compared to the first and second quarters in our fiscal year due to seasonal demand from consumer markets primarily relating to the beginning of the school year and the holiday season. This pronounced seasonality has been previously offset by irregular and significant purchases from customers in other markets, such as the service provider market. As the proportion of our revenue derived from consumer focused products grows relative to our overall business, the impact of the seasonally high third and fourth fiscal quarters shall become more pronounced than experienced in prior years.

Backlog

Our backlog consists of products for which customer purchase orders have been received and that are scheduled or in the process of being scheduled for shipment. As we typically fulfill orders received within a relatively short period (e.g., within a few weeks for our top three customers) after receipt, our revenue in any fiscal year depends primarily upon orders booked and the availability of supply of our products in that year. In addition, most of our backlog is subject to rescheduling or cancellation with minimal penalties. As a result, our backlog as of any particular date may not be an indicator of revenue for any succeeding period. Similarly, there is a lack of meaningful correlation between year-over-year changes in backlog as compared with year-over-year changes in revenue. Accordingly, we do not believe that backlog information is material to an understanding of our overall business, and backlog as of any particular date should not be considered a reliable indicator of our ability to achieve any particular level of revenue or financial performance.

Environmental Laws

Our products and manufacturing process are subject to numerous governmental regulations, which cover both the use of various materials as well as environmental concerns. Environmental issues such as pollution and climate change have had significant legislative and regulatory efforts on a global basis, and there are expected to be additional changes to the regulations in these areas. These changes could directly increase the cost of energy, which may have an impact on the way we manufacture products or utilize energy to produce our products. In addition, any new regulations or laws in the environmental area might increase the cost of raw materials we use in our products and the cost of compliance. Other regulations in the environmental area may require us to continue to monitor and ensure proper disposal or recycling of our products. To the best of our knowledge, we maintain compliance with all current government regulations concerning our production processes for all locations in which we operate. Since we operate on a global basis, this is also a complex process that requires continual monitoring of regulations and an ongoing compliance process to ensure that we and our suppliers are in compliance with all existing regulations.

Employees

As of December 31, 2019, we had 809 full-time employees, with 283 in sales, marketing and technical support, 273 in research and development, 109 in operations, and 144 in finance, information systems and administration. We also utilize a number of temporary staff to supplement our workforce. We have never had a work stoppage among our employees and no personnel are represented under collective bargaining agreements.

Available Information

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), are filed with the Securities Exchange Commission (the "SEC").

Our website provides a link to our SEC filings, which are available free of charge on the same day such filings are made. The specific location on the website where these reports can be found is http://investor.netgear.com/sec.cfm. Our website also provides a link to Section 16 filings which are available free of charge on the same day as such filings are made. Information contained on these websites is not a part of this Annual Report on Form 10-K.

Information About Our Executive Officers

The following table sets forth the names, ages and positions of our executive officers as of February 11, 2020.

Name	Age	Position
Patrick C.S. Lo	63	Chairman and Chief Executive Officer
Bryan D. Murray	45	Chief Financial Officer
Michael F. Falcon	63	Chief Operations Officer
Heidi B. Cormack	45	Senior Vice President, Global Marketing
David J. Henry	47	Senior Vice President, Connected Home Products and Services
Andrew W. Kim	49	Senior Vice President of Corporate Development, General Counsel and Corporate Secretary
Vikram Mehta	54	Senior Vice President, SMB Products and Services
Mark G. Merrill	65	Chief Technology Officer
Tamesa T. Rogers	46	Senior Vice President, Human Resources
Martin D. Westhead	49	Chief Technology Officer, Software
Michael A. Werdann	51	Senior Vice President of Worldwide Sales

Patrick C.S. Lo is our co-founder and has served as our Chairman and Chief Executive Officer since March 2002. He previously served as interim general manager of our former retail business unit and as interim general manager of our former service provider business unit. Patrick founded NETGEAR with Mark G. Merrill with the singular vision of providing the appliances to enable everyone in the world to connect to the high speed Internet for information, communication, business transactions, education, and entertainment. From 1983 until 1995, Mr. Lo worked at Hewlett-Packard Company, where he served in various management positions in sales, technical support, product management, and marketing in the U.S. and Asia. Mr. Lo was named the Ernst & Young National Technology Entrepreneur of the Year in 2006. Mr. Lo received a B.S. degree in electrical engineering from Brown University.

Bryan D. Murray has served as our Chief Financial Officer since August 2018. He has been with NETGEAR since November 2001, serving in various management roles within the finance organization. Prior to assuming the role of CFO, he served as NETGEAR's Vice President of Finance and Corporate Controller since June 2011. Before joining NETGEAR in 2001, he worked in public accounting at Deloitte and Touche LLP. He holds a B.A. from the University of California, Santa Barbara, and is licensed as a Certified Public Accountant (inactive).

Michael F. Falcon has served as our Chief Operations Officer since November 2017, Senior Vice President of Worldwide Operations and Support from January 2009 to November 2017, Senior Vice President of Operations from March 2006 to January 2009, and Vice President of Operations from November 2002 to March 2006. Prior to joining us, Mr. Falcon was at Quantum Corporation, where he served as Vice President of Operations and Supply Chain Management from September 1999 to November 2002, Meridian Data (acquired by Quantum Corporation), where he served as Vice President of Operations from April 1999 to September 1999, and Silicon Valley Group, where he served as Director of Operations, Strategic Planning and Supply Chain Management from February 1989 to April 1999. Prior to February 1989, Mr. Falcon served in management positions at SCI Systems, an electronics manufacturer, Xerox Imaging Systems, a provider of scanning and text recognition solutions, and Plantronics, Inc., a provider of lightweight communication headsets. Mr. Falcon received a B.A. degree in Economics with honors from the University of California, Santa Cruz and has completed coursework in the M.B.A. program at Santa Clara University.

Heidi B. Cormack has served as our Senior Vice President of Global Marketing since November 2017. She has been with NETGEAR since July 2009, serving in various management roles within the marketing organization. Prior to assuming the role of Senior Vice President of Global Marketing, Ms. Cormack served as NETGEAR's Vice President of Corporate Marketing, and Director of Regional Marketing prior to that. Before joining NETGEAR, Ms. Cormack held positions at Virgin Mobile (Australia) PTY Limited, Red Bull Gmbh and Sony Computer Entertainment, Inc. in various marketing roles and completed business studies at the Sunshine Coast Business Academy in Australia.

David J. Henry has served as our Senior Vice President of Connected Home Products and Services since January 2017. He has worldwide responsibility for both Product Marketing and Engineering of our home networking products, encompassing product strategy, development and delivery. He has been with NETGEAR since July 2004, most recently serving as our Senior Vice President of Home Networking from January 2016 to December 2016, Vice President of Product Management of our retail business unit from March 2011 to January 2016 and as our Senior Director of Product Marketing from October 2010 to March 2011. Prior to NETGEAR, Mr. Henry was a senior product manager for the high technology vertical application at Siebel Systems (acquired by Oracle Corporation). His professional experience also includes business process and information technology consulting with Deloitte Consulting. Mr. Henry received a B.S. degree in Electrical Engineering, with an emphasis on Signal Processing, from the University of Washington and an M.B.A. from the Stanford Graduate School of Business.

Andrew W. Kim has served as our Senior Vice President of Corporate Development, General Counsel and Corporate Secretary since July 2013, Vice President, Legal and Corporate Development and Corporate Secretary from October 2008 until July 2013, and as our Associate General Counsel from March 2008 to October 2008. Prior to joining NETGEAR, Mr. Kim served as Special Counsel in the Corporate and Securities Department of Wilson Sonsini Goodrich & Rosati, a private law firm, where he represented public and private technology companies in a wide range of matters, including mergers and acquisitions, debt and equity financing arrangements, securities law compliance and corporate governance from 2000 to 2003 and 2006 to 2008. In between his two terms at Wilson Sonsini Goodrich & Rosati, Mr. Kim served as Partner in the Business and Finance Department of the law firm Schwartz Cooper Chartered in Chicago, Illinois, and was an Adjunct Professor of Entrepreneurship at the Illinois Institute of Technology. Mr. Kim holds a J.D. from Cornell Law School, and received a B.A. degree in history from Yale University.

Vikram Mehta has served as our Senior Vice President of SMB Products and Services since January 2020 and previously served as our consultant from July 2019 to December 2019. From May 2015 to January 2020, Mr. Mehta served as Managing Director of Pacific Venture Advisors, a technology and management consulting company. Prior to that, from October 2013 to April 2015, he served as President and Chief Executive Officer at Kaazing Corporation, a venture funded IoT software company. Prior to Kaazing and subsequent to IBM's acquisition of BLADE Network Technologies, Inc. ("BLADE"), Mr. Mehta served as Vice President of System Networking, STG, at IBM, from January 2011 to April 2013. Mr. Mehta served as Founder, President and Chief Executive Officer of BLADE, a networking company, from its inception in February 2006 to its acquisition by IBM in December 2010. Prior to that, Mr. Mehta worked at a number of technology companies, including Hewlett-Packard Company, where he served in various management positions in sales, marketing, and General Management in the U.S., Asia, and Australia, Nortel Networks, Alteon WebSystems (acquired by Nortel Networks) and Ensim Corporation (acquired by Ingram Micro). Mr. Mehta received a B.S. degree in Electrical Engineering from Birla Institute of Technology.

Martin D. Westhead, Ph.D. has served as our Chief Technology Officer of Software since December 2019. Prior to joining NETGEAR, Dr. Westhead was with Groupon from March 2014, where he became VP Engineering for Consumer Engineering team, responsible for the company's end-to-end customer experience on mobile and web. Prior to Groupon, Dr. Westhead led several software organizations, including at Ning a social network startup and Avaya a telephony company, and founded two companies in network management tools. He lectured for Stanford's Continuing Studies Business Department. Dr. Westhead received his B.S. and Ph.D. degrees from the Department of AI and Computer Science in the University of Edinburgh, U.K.

Mark G. Merrill is our co-founder and has served as our Chief Technology Officer since March 2015. In this role, Mr. Merrill continues to guide the emerging market efforts and work closely with the RF engineering team to ensure technical leadership of our wireless networking products. Previously, Mr. Merrill served as our Senior Vice President of Advanced Engineering from February 2013 to February 2015 and as our Chief Technology Officer from January 2003 to April 2013. From September 1999 to January 2003, he served as Vice President of Engineering and served as Director of Engineering from September 1995 to September 1999. Mr. Merrill received both a B.S. degree and an M.S. degree in Electrical Engineering from Stanford University.

Tamesa T. Rogers has served as our Senior Vice President, Human Resources since July 2013, Vice President, Human Resources from January 2009 to July 2013, Director, Worldwide Human Resources from September 2006 to January 2009 and as our Senior Human Resources Manager from December 2003 to September 2006. From March 2000 to December 2003, Ms. Rogers worked at TriNet Employer Group, a professional employer organization, as a Human Resources Manager, providing HR consulting to technology companies throughout Silicon Valley. Prior to TriNet, Ms. Rogers served in various human resources functions in several Northern California companies. Ms. Rogers received a B.A. in Communication Studies from the University of California, Santa Barbara and an M.S. in Counseling from California State University, Hayward.

Michael A. Werdann has served as our Senior Vice President of Worldwide Sales since October 2015, Worldwide Senior Vice President of Sales for Consumer Products from March 2015 to October 2015 and Vice President of Americas Sales from December 2003 to March 2015. Since joining us in 1998, Mr. Werdann has served as our United States Director of Sales, E-Commerce and DMR from December 2002 to December 2003 and as our Eastern Regional Sales Director from October 1998 to December 2002. Prior to joining us, Mr. Werdann worked for three years at Iomega Corporation, a computer hardware company, as a Sales Director for the value added reseller sector. Mr. Werdann holds a B.S. Degree in Communications from Seton Hall University.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. The risks described below are not exhaustive of the risks that might affect our business. Other risks, including those we currently deem immaterial, may also impact our business. Any of the following risks could materially adversely affect our business operations, results of operations and financial condition and could result in a significant decline in our stock price. Before deciding to purchase, hold or sell our common stock, you should carefully consider the risks described in this section. This section should be read in conjunction with the consolidated financial statements and accompanying notes thereto, and Management's Discussion and Analysis of Financial Condition and Results of Operations included in this Annual Report on Form 10-K.

We expect our operating results to fluctuate on a quarterly and annual basis, which could cause our stock price to fluctuate or decline.

Our operating results are difficult to predict and may fluctuate substantially from quarter-to-quarter or year-to-year for a variety of reasons, many of which are beyond our control. If our actual results were to fall below our estimates or the expectations of public market analysts or investors, our quarterly and annual results would be negatively impacted and the price of our stock could decline. Other factors that could affect our quarterly and annual operating results include those listed in the risk factors section of this report and others such as:

- changes in the pricing policies of or the introduction of new products by us or our competitors;
- introductions of new technologies and changes in consumer preferences that result in either unanticipated or unexpectedly rapid product category shifts;
- slow or negative growth in the networking product, personal computer, Internet infrastructure, smart home, home electronics and related technology markets;
- seasonal shifts in end market demand for our products, particularly in our Connected Home business segment;
- delays in the introduction of new products by us or market acceptance of these products;
- public health emergencies, such as the recent outbreak of the 2019 novel coronavirus (2019-nCoV), now known as “COVID-19,” in Greater China, a region of importance to our supply chain and our end market sales;
- increases in expenses related to the development, introduction and marketing of new products that adversely impact our margins;
- unanticipated decreases or delays in purchases of our products by our significant traditional and online retail customers;
- the inability to maintain stable operations by our suppliers and other parties with which we have commercial relationships;
- component supply constraints or sudden, unforeseen price increases from our vendors;
- unexpected challenges or delays in our ability to further develop services and applications that complement our products and result in meaningful subscriber growth and future recurring revenue;
- unanticipated increases in costs, including air freight, associated with shipping and delivery of our products;
- discovery or exploitation of security vulnerabilities in our products, services or systems, leading to negative publicity, decreased demand or potential liability, including potential breach of our customers' data privacy or disruption of the continuous operation of our cloud infrastructure and our products;

- changes in U.S. and international tax and trade policy that adversely affect customs, tax or duty rates, such as the higher tariffs on products imported from China enacted by the current U.S. administration;
- shift in overall product mix sales from higher to lower margin products, or from one business segment to another, that would adversely impact our margins;
- foreign currency exchange rate fluctuations in the jurisdictions where we transact sales and expenditures in local currency;
- unanticipated increases in expenses related to periodic restructuring measures undertaken to achieve profitability and other business goals, including the reallocation or relocation of resources;
- unfavorable level of inventory and turns;
- changes in or consolidation of our sales channels and wholesale distributor relationships or failure to manage our sales channel inventory and warehousing requirements;
- delay or failure to fulfill orders for our products on a timely basis;
- delay or failure of our service provider customers to purchase at their historic volumes or at the volumes that they or we forecast;
- changes in tax rates or adverse changes in tax laws that expose us to additional income tax liabilities;
- operational disruptions, such as transportation delays or failure of our order processing system, particularly if they occur at the end of a fiscal quarter;
- disruptions or delays related to our financial and enterprise resource planning systems;
- our inability to accurately forecast product demand, resulting in increased inventory exposure;
- allowance for doubtful accounts exposure with our existing retailers, distributors and other channel partners and new retailers, distributors and other channel partners, particularly as we expand into new international markets;
- geopolitical disruption, including sudden changes in immigration policies, leading to disruption in our workforce or delay or even stoppage of our operations in manufacturing, transportation, technical support and research and development;
- terms of our contracts with customers or suppliers that cause us to incur additional expenses or assume additional liabilities;
- an increase in price protection claims, redemptions of marketing rebates, product warranty and stock rotation returns or allowance for doubtful accounts;
- litigation involving alleged patent infringement, consumer class actions, securities class actions or other claims that could negatively impact our reputation, brand, business and financial condition;
- epidemic or widespread product failure, performance problems or unanticipated safety issues in one or more of our products that could negatively impact our reputation, brand and business;
- any changes in accounting rules;
- challenges associated with integrating acquisitions that we make, or with realizing value from our strategic investments in other companies;

- failure to effectively manage our third party customer support partners, which may result in customer complaints and/or harm to the NETGEAR brand;

- our inability to monitor and ensure compliance with our code of ethics, our anti-corruption compliance program and domestic and international anti-corruption laws and regulations, whether in relation to our employees or with our suppliers or customers;

- labor unrest at facilities managed by our third-party manufacturers;

- workplace or human rights violations in certain countries in which our third-party manufacturers or suppliers operate, which may affect the NETGEAR brand and negatively affect our products' acceptance by consumers;

- unanticipated shifts or declines in profit by geographical region that would adversely impact our tax rate; and

- our failure to implement and maintain the appropriate internal controls over financial reporting which may result in restatements of our financial statements.

As a result, period-to-period comparisons of our operating results may not be meaningful, and you should not rely on them as an indication of our future performance.

Our stock price may be volatile and your investment in our common stock could suffer a decline in value.

There has been significant volatility in the market price and trading volume of securities of technology and other companies, which may be unrelated to the financial performance of these companies. These broad market fluctuations may negatively affect the market price of our common stock.

Some specific factors that may have a significant effect on our common stock market price include:

- actual or anticipated fluctuations in our operating results or our competitors' operating results;

- actual or anticipated changes in the growth rate of the general networking sector, our growth rates or our competitors' growth rates;

- conditions in the financial markets in general or changes in general economic conditions, including government efforts to stabilize currencies;

- actual or anticipated changes in governmental regulation, including taxation and tariff policies;

- interest rate or currency exchange rate fluctuations;

- our ability to forecast or report accurate financial results; and

- changes in stock market analyst recommendations regarding our common stock, other comparable companies or our industry generally.

Some of our competitors have substantially greater resources than we do, and to be competitive we may be required to lower our prices or increase our sales and marketing expenses, which could result in reduced margins or loss of market share.

We compete in a rapidly evolving and fiercely competitive market, and we expect competition to continue to be intense, including price competition. Our principal competitors in the consumer market include ARRIS, ASUS, AVM, Devolo, D-Link, Eero (owned by Amazon), Lenovo, Nest (owned by Google), Linksys (owned by Foxconn), Samsung, Synology and TP-Link. Our principal competitors in the business market include Allied Telesys, Barracuda, Buffalo, Cisco Systems, Dell, D-Link, Fortinet, Hewlett-Packard Enterprise, QNAP Systems, Seagate Technology, SonicWall, Synology, TP-Link, Ubiquiti, WatchGuard and Western Digital. Our principal competitors in the service provider market include Actiontec, Airties, Arcadyan, ARRIS, ASUS, AVM, Compal Broadband, D-Link, Eero (owned by Amazon), Franklin, Google, Hitron, Huawei, Novatel Wireless, Plume, Sagem, Sercomm, SMC Networks, TechniColor, TP-Link, Ubee, ZTE and Zyxel. Other competitors include numerous local vendors such as Xiaomi in China, AVM in Germany and Buffalo in Japan. In addition, these local vendors may target markets outside of their local regions and may increasingly compete with us in other regions worldwide. Our potential competitors also include other consumer electronics vendors, including Apple, LG Electronics, Microsoft, Panasonic, Sony, Toshiba and Vizio, who could integrate networking and streaming capabilities into their line of products, such as televisions, set top boxes and gaming consoles, and our channel customers who may decide to offer self-branded networking products. We also face competition from service providers who may bundle a free networking device with their broadband service offering, which would reduce our sales if we were not the supplier of choice to those service providers. In the service provider space, we are also facing significant and increased competition from original design manufacturers, or ODMs, and contract manufacturers who are selling and attempting to sell their products directly to service providers around the world.

Many of our existing and potential competitors have longer operating histories, greater name recognition and substantially greater financial, technical, sales, marketing and other resources. These competitors may, among other things, undertake more extensive marketing campaigns, adopt more aggressive pricing policies, obtain more favorable pricing from suppliers and manufacturers, and exert more influence on sales channels than we can. Certain of our significant competitors also serve as key sales and marketing channels for our products, potentially giving these competitors a marketplace advantage based on their knowledge of our business activities and/or their ability to negatively influence our sales opportunities. For example, Amazon provides an important sales channel for our products, but it also competes with us in the mesh WiFi systems product category through its subsidiary Eero. In addition, certain competitors may have different business models, such as integrated manufacturing capabilities, that may allow them to achieve cost savings and to compete on the basis of price. Other competitors may have fewer resources, but may be more nimble in developing new or disruptive technology or in entering new markets. We anticipate that current and potential competitors will also intensify their efforts to penetrate our target markets. For example, price competition is intense in our industry in certain geographical regions and product categories. Many of our competitors in the service provider and retail spaces price their products significantly below our product costs in order to gain market share. Certain substantial competitors have business models that are more focused on customer acquisition and access to customer data rather than on financial return from product sales, and these competitors have the ability to provide sustained price competition to many of our products in the market. Average sales prices have declined in the past and may again decline in the future. These competitors may have more advanced technology, more extensive distribution channels, stronger brand names, greater access to shelf space in retail locations, bigger promotional budgets and larger customer bases than we do. In addition, many of these competitors leverage a broader product portfolio and offer lower pricing as part of a more comprehensive end-to-end solution which we may not have. These companies could devote more capital resources to develop, manufacture and market competing products than we could. Our competitors may acquire other companies in the market and leverage combined resources to gain market share. In some instances, our competitors may be acquired by larger companies with additional formidable resources, such as the purchase of ARRIS by CommScope and Eero by Amazon. If any of these companies are successful in competing against us, our sales could decline, our margins could be negatively impacted and we could lose market share, any of which could seriously harm our business and results of operations.

If we fail to continue to introduce or acquire new products and services that achieve broad market acceptance on a timely basis, we will not be able to compete effectively and we will be unable to increase or maintain net revenue and gross margins.

We operate in a highly competitive, quickly changing environment, and our future success depends on our ability to develop or acquire, and introduce new products and services that achieve broad market acceptance. Our future success will depend in large part upon our ability to identify demand trends in the consumer, business and service provider markets, and to quickly develop or acquire, and manufacture and sell products and services that satisfy these demands in a cost-effective manner. In order to differentiate our products from our competitors' products, we must continue to increase our focus and capital investment in research and development, including software development for our products and complementary services and applications. For example, we have committed a substantial amount of resources to the development, manufacture, marketing and sale of our Nighthawk home networking products and Orbi WiFi system, and to introducing additional and improved models in these lines. If these products do not continue to maintain or achieve widespread market acceptance, or if we are unsuccessful in capitalizing on other smart home market opportunities, our future growth may be slowed and our financial results could be harmed. Also, as the mix of our business increasingly includes new products and services that require additional investment, this shift may adversely impact our margins, at least in the near-term. For example, we are making significant investments in the development and introduction of our new WiFi 6 products, including marketing efforts to build awareness of the benefits of this next-generation WiFi standard. Successfully predicting demand trends is difficult, and it is very difficult to predict the effect that introducing a new product will have on existing product sales. We will also need to respond effectively to new product announcements by our competitors by quickly introducing competitive products.

In addition, we have acquired companies and technologies in the past and as a result, have introduced new product lines in new markets. We may not be able to successfully manage integration of the new product lines with our existing products. Selling new product lines in new markets will require our management to learn different strategies in order to be successful. We may be unsuccessful in launching a newly acquired product line in new markets which requires management of new suppliers, potential new customers and new business models. Our management may not have the experience of selling in these new markets and we may not be able to grow our business as planned. For example, in August 2018, we acquired Meural Inc., a leader in digital platforms for visual art, to enhance our Connected Home product and service offerings. If we are unable to effectively and successfully further develop these new product lines, we may not be able to increase or maintain our sales and our gross margins may be adversely affected.

We have experienced delays and quality issues in releasing new products in the past, which resulted in lower quarterly net revenue than expected. In addition, we have experienced, and may in the future experience, product introductions that fall short of our projected rates of market adoption. Online Internet reviews of our products are increasingly becoming a significant factor in the success of our new product launches, especially in our Connected Home business segment. If we are unable to quickly respond to negative reviews, including end user reviews posted on various prominent online retailers, our ability to sell these products will be harmed. Any future delays in product development and introduction, or product introductions that do not meet broad market acceptance, or unsuccessful launches of new product lines could result in:

- loss of or delay in revenue and loss of market share;
- negative publicity and damage to our reputation and brand;
- a decline in the average selling price of our products;
- adverse reactions in our sales channels, such as reduced shelf space, reduced online product visibility, or loss of sales channels; and
- increased levels of product returns.

Throughout the past few years, we have significantly increased the rate of our new product introductions. If we cannot sustain that pace of product introductions, either through rapid innovation or acquisition of new products or product lines, we may not be able to maintain or increase the market share of our products. In addition, if we are unable to successfully introduce or acquire new products with higher gross margins, or if we are unable to improve the margins on our previously introduced and rapidly growing product lines, our net revenue and overall gross margin would likely decline.

We rely on a limited number of traditional and online retailers, wholesale distributors and service provider customers for a substantial portion of our sales, and our net revenue could decline if they refuse to pay our requested prices or reduce their level of purchases or if there is significant consolidation in our customer base that results in fewer customers for our products.

We sell a substantial portion of our products through traditional and online retailers, including Best Buy Co., Inc., Amazon.com, Inc. and their affiliates, wholesale distributors, including Ingram Micro, Inc. and Tech Data Corporation, and service providers, such as AT&T. We expect that a significant portion of our net revenue will continue to come from sales to a small number of customers for the foreseeable future. In addition, because our accounts receivable are often concentrated with a small group of purchasers, the failure of any of them to pay on a timely basis, or at all, would reduce our cash flow. We are also exposed to increased credit risk if any one of these limited numbers of customers fails or becomes insolvent. We generally have no minimum purchase commitments or long-term contracts with any of these customers. These purchasers could decide at any time to discontinue, decrease or delay their purchases of our products. If our customers increase the size of their product orders without sufficient lead-time for us to process the order, our ability to fulfill product demands would be compromised. These customers have a variety of suppliers to choose from and therefore can make substantial demands on us, including demands on product pricing and on contractual terms, which often results in the allocation of risk to us as the supplier. Accordingly, the prices that they pay for our products are subject to negotiation and could change at any time. Our ability to maintain strong relationships with our principal customers is essential to our future performance. If any of our major customers reduce their level of purchases or refuse to pay the prices that we set for our products, our net revenue and operating results could be harmed. Furthermore, some of our customers are also our competitors in certain product categories, which could negatively influence their purchasing decisions. For example, Amazon owns Eero, one of our competitors in the mesh WiFi systems product category. Our traditional retail customers have faced increased and significant competition from online retailers, and some of these traditional retail customers have increasingly become a smaller portion of our business. If key retail customers continue to reduce their level of purchases, our business could be harmed.

Additionally, concentration and consolidation among our customer base may allow certain customers to command increased leverage in negotiating prices and other terms of sale, which could adversely affect our profitability. If, as a result of increased leverage, customer pressures require us to reduce our pricing such that our gross margins are diminished, we could decide not to sell our products to a particular customer, which could result in a decrease in our revenue. Consolidation among our customer base may also lead to reduced demand for our products, elimination of sales opportunities, replacement of our products with those of our competitors and cancellations of orders, each of which would harm our operating results. Consolidation among our service provider customers worldwide may also make it more difficult to grow our service provider business, given the fierce competition for the already limited number of service providers worldwide and the long sales cycles to close deals. If consolidation among our customer base becomes more prevalent, our operating results may be harmed.

We depend on a limited number of third-party manufacturers for substantially all of our manufacturing needs. If these third-party manufacturers experience any delay, disruption or quality control problems in their operations, we could lose market share and our brand may suffer.

All of our products are manufactured, assembled, tested and generally packaged by a limited number of third-party manufacturers, including original design manufacturers, or ODMs, as well as contract manufacturers. In most cases, we rely on these manufacturers to procure components and, in some cases, subcontract engineering work. Some of our products are manufactured by a single manufacturer. We do not have any long-term contracts with any of our third-party manufacturers. Some of these third-party manufacturers produce products for our competitors or are themselves competitors in certain product categories. Due to changing economic conditions, the viability of some of these third-party manufacturers may be at risk. Our ODMs are increasingly refusing to work with us on certain projects, such as projects for manufacturing products for our service provider customers. Because our service provider customers command significant resources, including for software support, and demand extremely competitive pricing, our ODMs are starting to refuse to engage on service provider terms. The loss of the services of any of our primary third-party manufacturers could cause a significant disruption in operations and delays in product shipments. Qualifying a new manufacturer and commencing volume production is expensive and time consuming. Ensuring that a contract manufacturer is qualified to manufacture our products to our standards is time consuming. In addition, there is no assurance that a contract manufacturer can scale its production of our products at the volumes and in the quality that we require. If a contract manufacturer is unable to do these things, we may have to move production for the products to a new or existing third party manufacturer which would take significant effort and our business may be harmed. In addition, as we recently have transitioned a substantial portion of our manufacturing facilities to different jurisdictions, we are subject to additional significant challenges in ensuring that quality, processes and costs, among other issues, are consistent with our expectations. For example, while we expect our manufacturers to be responsible for penalties assessed on us because of excessive failures of the products, there is no assurance that we will be able to collect such reimbursements from these manufacturers, which causes us to take on additional risk for potential failures of our products.

Our reliance on third-party manufacturers also exposes us to the following risks over which we have limited control:

- unexpected increases in manufacturing and repair costs;
- inability to control the quality and reliability of finished products;
- inability to control delivery schedules;
- potential liability for expenses incurred by third-party manufacturers in reliance on our forecasts that later prove to be inaccurate;
- potential lack of adequate capacity to manufacture all or a part of the products we require; and
- potential labor unrest affecting the ability of the third-party manufacturers to produce our products.

All of our products must satisfy safety and regulatory standards and some of our products must also receive government certifications. Our third party manufacturers are primarily responsible for conducting the tests that support our applications for most regulatory approvals for our products. If our third party manufacturers fail to timely and accurately conduct these tests, we would be unable to obtain the necessary domestic or foreign regulatory approvals or certificates to sell our products in certain jurisdictions. As a result, we would be unable to sell our products and our sales and profitability could be reduced, our relationships with our sales channel could be harmed, and our reputation and brand would suffer.

Specifically, substantially all of our manufacturing and assembly occurs in the Asia Pacific region, and any disruptions due to natural disasters, health epidemics and political, social and economic instability in the region would affect the ability of our third party manufacturers to manufacture our products. For example, the recent public health emergency arising from the outbreak of the COVID-19 disease in Greater China has led to the temporary closure of many factories, businesses, schools and public spaces, as well as travel restrictions impacting the movement of people and goods. If these closures and restrictions continue for a substantial period of time, they may disrupt important elements of our supply chain, including the operation of our third party manufacturing facilities and other key service providers, the availability of labor, and the supply of necessary components. If the cost of production charged by our third party manufacturers increases, it may affect our margins and ability to lower prices for our products to stay competitive. Labor unrest in Southeast Asia, China or other locations where our products are manufactured may also affect our third party manufacturers as workers may strike and cause production delays. If our third party manufacturers fail to maintain good relations with their employees or contractors, and production and manufacturing of our products is affected, then we may be subject to shortages of products and quality of products delivered may be affected. Further, if our manufacturers or warehousing facilities are disrupted or destroyed, we would have no other readily available alternatives for manufacturing and assembling our products and our business would be significantly harmed.

As we continue to work with more third party manufacturers on a contract manufacturing basis, we are also exposed to additional risks not inherent in a typical ODM arrangement. Such risks may include our inability to properly source and qualify components for the products, lack of software expertise resulting in increased software defects, and lack of resources to properly monitor the manufacturing process. In our typical ODM arrangement, our ODMs are generally responsible for sourcing the components of the products and warranting that the products will work against a product's specification, including any software specifications. In a contract manufacturing arrangement, we would take on much more, if not all, of the responsibility around these areas. If we are unable to properly manage these risks, our products may be more susceptible to defects and our business would be harmed.

We obtain several key components from limited or sole sources, and if these sources fail to satisfy our supply requirements or we are unable to properly manage our supply requirements with our third-party manufacturers, we may lose sales and experience increased component costs.

Any shortage or delay in the supply of key product components, or any sudden, unforeseen price increase for such components, would harm our ability to meet product deliveries as scheduled or as budgeted. Many of the semiconductors used in our products are specifically designed for use in our products and are obtained from sole source suppliers on a purchase order basis. In addition, some components that are used in all our products are obtained from limited sources. These components include connector jacks, plastic casings and physical layer transceivers. We also obtain switching fabric semiconductors, which are used in our Ethernet switches and Internet gateway products, and wireless local area network chipsets, which are used in all of our wireless products, from a limited number of suppliers. Semiconductor suppliers have experienced and continue to experience component shortages themselves, such as with substrates used in manufacturing chipsets, which in turn adversely impact our ability to procure semiconductors from them. Our third-party manufacturers generally purchase these components on our behalf on a purchase order basis, and we do not have any contractual commitments or guaranteed supply arrangements with our suppliers. If demand for a specific component increases, we may not be able to obtain an adequate number of that component in a timely manner. In addition, if worldwide demand for the components increases significantly, the availability of these components could be limited. Further, our suppliers may experience financial or other difficulties as a result of uncertain and weak worldwide economic conditions. Other factors which may affect our suppliers' ability or willingness to supply components to us include internal management or reorganizational issues, such as roll-out of new equipment which may delay or disrupt supply of previously forecasted components, or industry consolidation and divestitures, which may result in changed business and product priorities among certain suppliers. Also, many standardized components used broadly in electronic devices are manufactured in significant quantities in concentrated geographic regions, particularly in Greater China. As a result, protracted regional crises, such as the recent outbreak of the COVID-19 disease in Greater China, could lead to eventual shortages of necessary components. It could be difficult, costly and time consuming to obtain alternative sources for these components, or to change product designs to make use of alternative components. In addition, difficulties in transitioning from an existing supplier to a new supplier could create delays in component availability that would have a significant impact on our ability to fulfill orders for our products.

We provide our third-party manufacturers with a rolling forecast of demand, which they use to determine our material and component requirements. Lead times for ordering materials and components vary significantly and depend on various factors, such as the specific supplier, contract terms and demand and supply for a component at a given time. Some of our components have long lead times, such as wireless local area network chipsets, switching fabric chips, physical layer transceivers, connector jacks and metal and plastic enclosures. If our forecasts are not timely provided or are less than our actual requirements, our third-party manufacturers may be unable to manufacture products in a timely manner. If our forecasts are too high, our third-party manufacturers will be unable to use the components they have purchased on our behalf. The cost of the components used in our products tends to drop rapidly as volumes increase and the technologies mature. Therefore, if our third-party manufacturers are unable to promptly use components purchased on our behalf, our cost of producing products may be higher than our competitors due to an oversupply of higher-priced components. Moreover, if they are unable to use components ordered at our direction, we will need to reimburse them for any losses they incur.

If we are unable to obtain a sufficient supply of components, or if we experience any interruption in the supply of components, our product shipments could be reduced or delayed or our cost of obtaining these components may increase. Component shortages and delays affect our ability to meet scheduled product deliveries, damage our brand and reputation in the market, and cause us to lose sales and market share. For example, component shortages and disruptions in supply in the past have limited our ability to supply all the worldwide demand for our products, and our revenue was affected. At times we have elected to use more expensive transportation methods, such as air freight, to make up for manufacturing delays caused by component shortages, which reduces our margins. In addition, at times sole suppliers of highly specialized components have provided components that were either defective or did not meet the criteria required by our customers, resulting in delays, lost revenue opportunities and potentially substantial write-offs.

Changes in trade policy in the United States and other countries, including the imposition of tariffs and the resulting consequences, may adversely impact our business, results of operations and financial condition.

The U.S. government has indicated and demonstrated its intent to alter its approach to international trade policy through the renegotiation, and potential termination, of certain existing bilateral or multi-lateral trade agreements and treaties with, and the imposition of tariffs on a wide range of products and other goods from, a number of countries. In particular, the U.S. government has been engaged in extended trade negotiations with China, which has resulted in the implementation of tariffs on a significant number of products manufactured in China and imported into the United States. Since June 1, 2018, the U.S. government has been subjecting various classifications of items that are considered to be of China origin to additional duties under Section 301 of the U.S. Trade Act of 1974. During 2018, the U.S. Trade Representative ("USTR") announced three separate tranches of items (known as lists 1, 2 and 3) that carried additional Section 301 duties if the items were products of China. Currently, items on lists 1 through 3 carry penalty duty rates of 25% on items of China origin. On August 13, 2019, the USTR announced the issuance of two additional lists (known as lists 4a and 4b), having effective dates of September 1, 2019 and December 15, 2019, respectively. During the period of implementation of List 4a and 4b, the U.S. and Chinese governments negotiated a trade truce that was known as the "Phase I" trade deal. The Phase I trade deal was signed on January 15, 2020. Among other things, the Phase I deal reduced the tariff on List 4a items from 15% to 7.5% (effective for items withdrawn for consumption on or after February 14, 2020) and indefinitely delayed tariffs of List 4b items. Items classified on Lists 1, 2 and 3 remain unchanged. Discussions between the U.S. government and China are ongoing and uncertain in nature. Throughout the extended negotiations, the U.S. government has not only threatened increases to the Section 301 tariffs, but has taken action. Our analysis of our supply chain, manufacturing processes and product compositions is ongoing, but our review to date indicates that most of our product types fall under the currently effective lists discussed above, if the item was deemed to be a product of China. Although we have been working closely with our manufacturing partners to implement ways to mitigate the impact of these tariffs on our supply chain as promptly as reasonably practicable, including shifting production outside of China, these efforts may disrupt our operations, may not be completely successful and may result in higher long-term manufacturing costs. Moreover, there is no certainty that countries to which we have shifted our manufacturing operations will not be subject to similar tariffs in the future. As a result, we may be required to raise our prices on certain products, which could result in the loss of customers and harm to our market share, competitive position and operating performance.

Additionally, the imposition of tariffs is dependent upon the classification of items under the Harmonized Tariff System ("HTS") and the country of origin of the item. Determination of the HTS and the origin of the item is a technical matter that can be subjective in nature. Accordingly, although we believe our classifications of both HTS and origin are appropriate, there is no certainty that the U.S. government will agree with us. If the U.S. government does not agree with our determinations, we could be required to pay additional amounts, including potential penalties, and our profitability would be adversely impacted.

Global economic conditions could materially adversely affect our revenue and results of operations.

Our business has been and may continue to be affected by a number of factors that are beyond our control, such as general geopolitical, economic and business conditions, conditions in the financial markets, and changes in the overall demand for networking and smart home products. A severe and/or prolonged economic downturn could adversely affect our customers' financial condition and the levels of business activity of our customers. Weakness in, and uncertainty about, global economic conditions may cause businesses to postpone spending in response to tighter credit, negative financial news and/or declines in income or asset values, which could have a material negative effect on the demand for networking products.

In addition, availability of our products from third-party manufacturers and our ability to distribute our products into the United States and non-U.S. jurisdictions may be impacted by factors such as an increase in duties, tariffs or other restrictions on trade; raw material shortages, work stoppages, strikes and political unrest; economic crises and international disputes or conflicts; changes in leadership and the political climate in countries from which we import products; and failure of the United States to maintain normal trade relations with China and other countries. Any of these occurrences could materially adversely affect our business, operating results and financial condition.

In the recent past, various regions worldwide have experienced slow economic growth. In addition, current economic challenges in China, including any global economic ramifications of these challenges, may continue to put negative pressure on global economic conditions. If conditions in the global economy, including Europe, China, Australia and the United States, or other key vertical or geographic markets deteriorate, such conditions could have a material adverse impact on our business, operating results and financial condition. For example, during the second half of 2019, our APAC sales were dampened by a sudden economic downturn in the China/Hong Kong region due to the escalating trade war, Yuan depreciation and the unstable sociopolitical situation in Hong Kong. If we are unable to successfully anticipate changing economic and political conditions, we may be unable to effectively plan for and respond to those changes, which could materially adversely affect our business and results of operations.

In addition, the economic problems affecting the financial markets and the uncertainty in global economic conditions resulted in a number of adverse effects including a low level of liquidity in many financial markets, extreme volatility in credit, equity, currency and fixed income markets, instability in the stock market and high unemployment. For example, the challenges faced by the European Union to stabilize some of its member economies, such as Greece, Portugal, Spain, Hungary and Italy, have had international implications affecting the stability of global financial markets and hindering economies worldwide. Many member nations in the European Union have been addressing the issues with controversial austerity measures. In addition, the consequences of the recent "Brexit" process by the United Kingdom and the current transition have led to significant uncertainty in the region. Should the European Union monetary policy measures be insufficient to restore confidence and stability to the financial markets, or should the United Kingdom's "Brexit" transition lead to additional economic or political instability, the global economy, including the U.S., U.K. and European Union economies where we have a significant presence, could be hindered, which could have a material adverse effect on us. There could also be a number of other follow-on effects from these economic developments on our business, including the inability of customers to obtain credit to finance purchases of our products; customer insolvencies; decreased customer confidence to make purchasing decisions; decreased customer demand; and decreased customer ability to pay their trade obligations.

We depend on large, recurring purchases from certain significant customers, and a loss, cancellation or delay in purchases by these customers could negatively affect our revenue.

The loss of recurring orders from any of our more significant customers could cause our revenue and profitability to suffer. Our ability to attract new customers will depend on a variety of factors, including the cost-effectiveness, reliability, scalability, breadth and depth of our products. In addition, a change in the mix of our customers, or a change in the mix of direct and indirect sales, could adversely affect our revenue and gross margins.

Although our financial performance may depend on large, recurring orders from certain customers and resellers, we do not generally have binding commitments from them. For example:

- our reseller agreements generally do not require substantial minimum purchases;
- our customers can stop purchasing and our resellers can stop marketing our products at any time; and
- our reseller agreements generally are not exclusive.

Further, our revenue may be impacted by significant one-time purchases which are not contemplated to be repeatable. While such purchases are reflected in our financial statements, we do not rely on and do not forecast for continued significant one-time purchases. As a result, lack of repeatable one-time purchases will adversely affect our revenue.

Because our expenses are based on our revenue forecasts, a substantial reduction or delay in sales of our products to, or unexpected returns from, customers and resellers, or the loss of any significant customer or reseller, could harm or otherwise have a negative impact to our operating results. Although our largest customers may vary from period to period, we anticipate that our operating results for any given period will continue to depend on large orders from a small number of customers.

Product security vulnerabilities, system security risks, data protection breaches and cyber-attacks could disrupt our products, services, internal operations or information technology systems, and any such disruption could increase our expenses, damage our reputation, harm our business and adversely affect our stock price.

Our products and services may contain unknown security vulnerabilities. For example, the firmware, software and open source software that we or our manufacturing partners have installed on our products may be susceptible to hacking or misuse. In addition, we offer a comprehensive online cloud management service paired with a number of our products. If malicious actors compromise this cloud service, or if customer confidential information is accessed without authorization, our business will be harmed. Operating an online cloud service is a relatively new business for us and we may not have the expertise to properly manage risks related to data security and systems security. In addition, we have recently started to make our products available for purchase directly by consumers through our website. We rely on third-party providers for a number of critical aspects of our cloud services, e-commerce site and customer support, including web hosting services, billing and payment processing, and consequently we do not maintain direct control over the security or stability of the associated systems.

Maintaining the security of our computer information systems and communication systems is a critical issue for us and our customers. Malicious actors may develop and deploy malware that is designed to manipulate our products and systems, including our internal network, or those of our vendors or customers. Additionally, outside parties may attempt to fraudulently induce our employees to disclose sensitive information in order to gain access to our information technology systems, our data or our customers' data. We have established a crisis management plan and business continuity program. While we regularly test the plan and the program, there can be no assurance that the plan and program can withstand an actual or serious disruption in our business, including a data protection breach or cyber-attack. While we have established infrastructure and geographic redundancy for our critical systems, our ability to utilize these redundant systems requires further testing and we cannot be assured that such systems are fully functional. For example, much of our order fulfillment process is automated and the order information is stored on our servers. A significant business interruption could result in losses or damages and harm our business. If our computer systems and servers become unavailable at the end of a fiscal quarter, our ability to recognize revenue may be delayed until we are able to utilize back-up systems and continue to process and ship our orders. This could cause our stock price to decline significantly.

We devote considerable internal and external resources to network security, data encryption and other security measures to protect our systems and customer data, but these security measures cannot provide absolute security. In addition, many jurisdictions strictly regulate data privacy and protection and may impose significant penalties for failure to comply with these requirements. For example, the European Union's General Data Protection Regulation ("GDPR"), which became effective in May 2018, has required us to expend significant time and resources to prepare for compliance. Data Protection Authorities in Europe have begun to aggressively enforce the GDPR and have issued heavy fines for non-compliance against a broad range of companies. The State of California has enacted the California Consumer Privacy Act of 2018 (the “CCPA”), which became effective in January 2020. The CCPA establishes a privacy framework for covered businesses, including an expansive definition of personal information and data privacy rights for California residents. The CCPA includes potentially severe statutory damages and private rights of action. The CCPA requires covered companies to provide new disclosures to California consumers (as broadly defined in the CCPA), provide such consumers new ways to opt-out of certain sales of personal information, and allow for a new cause of action for data breaches. It remains unclear how the CCPA will be interpreted, but as currently written, it will likely impact our business activities and it exemplifies the vulnerability of our business not only to cyber threats but also the evolving regulatory environment related to personal data. The CCPA is likely to increase our compliance costs and potential liability. Some observers have noted that the CCPA could mark the beginning of a trend toward more stringent privacy legislation in the United States, and other states are beginning to pass similar laws.

Compliance with these and any other applicable privacy and data security laws and regulations is a rigorous and time-intensive process, and we may be required to put in place additional mechanisms ensuring compliance with the new data protection rules. If we fail to comply with any such laws or regulations, we may face significant fines and penalties that could adversely affect our business, financial condition and results of operations. Furthermore, the laws are not consistent, and compliance in the event of a widespread data breach is costly.

Potential breaches of our security measures and the accidental loss, inadvertent disclosure or unapproved dissemination of proprietary information or sensitive or confidential data about us, our employees or our customers, including the potential loss or disclosure of such information or data as a result of employee error or other employee actions, hacking, fraud, social engineering or other forms of deception, could expose us, our customers or the individuals affected to a risk of loss or misuse of this information, result in litigation and potential liability for us, subject us to significant governmental fines, damage our brand and reputation, or otherwise harm our business. In addition, the cost and operational consequences of implementing further data protection measures could be significant. Likewise, we expect that there will continue to be new proposed laws, regulations and industry standards relating to privacy and data protection in the United States, the EU and other jurisdictions, such as the CCPA. We cannot presently determine the impact such laws, regulations and standards will have on our business. In any event, it is possible that governmental authorities will conclude that our business practices do not comply with current or future statutes, regulations, agency guidance or case law involving applicable healthcare or privacy laws, including the GDPR, in light of the lack of applicable precedent and regulations.

Our management has spent increasing amounts of time, effort and expense in this area, and in the event of the discovery of a significant product or system security vulnerability, we would incur additional substantial expenses and our business would be harmed. If we or our third-party providers are unable to successfully prevent breaches of security relating to our products, services, systems or customer private information, including customer personal identification information, or if these third-party systems failed for other reasons, it could result in litigation and potential liability for us, damage our brand and reputation, or otherwise harm our business.

We have been and will be investing increased additional in-house resources on software research and development, which could disrupt our ongoing business and present distinct risks from our historically hardware-centric business.

We plan to continue to evolve our historically hardware-centric business model towards a model that includes more sophisticated software offerings, including services and applications that complement our products and are intended to drive subscriber growth and future recurring revenue. As such, we will further evolve the focus of our organization towards the delivery of more integrated hardware and software solutions for our customers, as well as related services. While we have invested in software development in the past, we will be expending additional resources in this area in the future, including key new hires. Such endeavors may involve significant risks and uncertainties, including distraction of management from current operations and insufficient revenue to offset expenses associated with this strategy. Software development is inherently risky for a company such as ours with a historically hardware-centric business model, and accordingly, our efforts in software development may not be successful. Any increased investment in software research and development may materially adversely affect our financial condition and operating results.

We may spend a proportionately greater amount on software research and development in the future. If we cannot proportionately decrease our cost structure in response to competitive price pressures, our gross margin and, therefore, our profitability could be adversely affected. In addition, if our software solutions, services, applications, pricing and other factors are not sufficiently competitive, or if there is an adverse reaction to our product decisions, we may lose market share in certain areas, which could adversely affect our revenue and prospects.

Software research and development is complex. We must make long-term investments, develop or obtain appropriate intellectual property and commit significant resources before knowing whether our predictions will accurately reflect customer demand for our products and services. We must accurately forecast mixes of software solutions and configurations that meet customer requirements, and we may not succeed at doing so within a given product's life cycle or at all. Any delay in the development, production or marketing of a new software solution could result in us not being among the first to market, which could further harm our competitive position. In addition, our regular testing and quality control efforts may not be effective in controlling or detecting all quality issues and defects. We may be unable to determine the cause, find an appropriate solution or offer a temporary fix to address defects. Finding solutions to quality issues or defects can be expensive and may result in additional warranty, replacement and other costs, adversely affecting our profits. If new or existing customers have difficulty with our software solutions or are dissatisfied with our services, our operating margins could be adversely affected, and we could face possible claims if we fail to meet our customers' expectations. In addition, quality issues can impair our relationships with new or existing customers and adversely affect our brand and reputation, which could adversely affect our operating results.

If we do not effectively manage our sales channel inventory and product mix, we may incur costs associated with excess inventory, or lose sales from having too few products.

If we are unable to properly monitor and manage our sales channel inventory and maintain an appropriate level and mix of products with our wholesale distributors and within our sales channels, we may incur increased and unexpected costs associated with this inventory. We generally allow wholesale distributors and traditional retailers to return a limited amount of our products in exchange for other products. Under our price protection policy, if we reduce the list price of a product, we are often required to issue a credit in an amount equal to the reduction for each of the products held in inventory by our wholesale distributors and retailers. If our wholesale distributors and retailers are unable to sell their inventory in a timely manner, we might lower the price of the products, or these parties may exchange the products for newer products. Also, during the transition from an existing product to a new replacement product, we must accurately predict the demand for the existing and the new product.

We determine production levels based on our forecasts of demand for our products. Actual demand for our products depends on many factors, which makes it difficult to forecast. We have experienced differences between our actual and our forecasted demand in the past and expect differences to arise in the future. If we improperly forecast demand for our products we could end up with too many products and be unable to sell the excess inventory in a timely manner, if at all, or, alternatively we could end up with too few products and not be able to satisfy demand. This problem is exacerbated because we attempt to closely match inventory levels with product demand leaving limited margin for error. If these events occur, we could incur increased expenses associated with writing off excessive or obsolete inventory, lose sales, incur penalties for late delivery or have to ship products by air freight to meet immediate demand incurring incremental freight costs above the sea freight costs, a preferred method, and suffering a corresponding decline in gross margins.

We are exposed to adverse currency exchange rate fluctuations in jurisdictions where we transact in local currency, which could harm our financial results and cash flows.

Because a significant portion of our business is conducted outside the United States, we face exposure to adverse movements in foreign currency exchange rates. These exposures may change over time as business practices evolve, and they could have a material adverse impact on our results of operations, financial position and cash flows. Although a portion of our international sales are currently invoiced in United States dollars, we have implemented and continue to implement for certain countries and customers both invoicing and payment in foreign currencies. Our primary exposure to movements in foreign currency exchange rates relates to non-U.S. dollar denominated sales in Europe, Japan and Australia as well as our global operations, and non-U.S. dollar denominated operating expenses and certain assets and liabilities. In addition, weaknesses in foreign currencies for U.S. dollar denominated sales could adversely affect demand for our products. Conversely, a strengthening in foreign currencies against the U.S. dollar could increase foreign currency denominated costs. As a result we may attempt to renegotiate pricing of existing contracts or request payment to be made in U.S. dollars. We cannot be sure that our customers would agree to renegotiate along these lines. This could result in customers eventually terminating contracts with us or in our decision to terminate certain contracts, which would adversely affect our sales.

We hedge our exposure to fluctuations in foreign currency exchange rates as a response to the risk of changes in the value of foreign currency-denominated assets and liabilities. We may enter into foreign currency forward contracts or other instruments, the majority of which mature within approximately five months. Our foreign currency forward contracts reduce, but do not eliminate, the impact of currency exchange rate movements. For example, we do not execute forward contracts in all currencies in which we conduct business. In addition, we hedge to reduce the impact of volatile exchange rates on net revenue, gross profit and operating profit for limited periods of time. However, the use of these hedging activities may only offset a portion of the adverse financial effect resulting from unfavorable movements in foreign exchange rates.

If we fail to overcome the challenges associated with managing our broadband service provider sales channel, our net revenue and gross profit will be negatively impacted.

We sell a significant number of products through broadband service providers worldwide. However, the service provider sales channel is challenging and exceptionally competitive. Difficulties and challenges in selling to service providers include a longer sales cycle, more stringent product testing and validation requirements, a higher level of customization demands, requirements that suppliers take on a larger share of the risk with respect to contractual business terms, competition from established suppliers, pricing pressure resulting in lower gross margins, and irregular and unpredictable ordering habits. For example, rigorous service provider certification processes may delay our sale of new products, or our products ultimately may fail these tests. In either event, we may lose some or all of the amounts we expended in trying to obtain business from the service provider, as well as lose the business opportunity altogether. In addition, even if we have a product which a service provider customer may wish to purchase, we may choose not to supply products to the potential service provider customer if the contract requirements, such as service level requirements, penalties, and liability provisions, are too onerous. Accordingly, our business may be harmed and our revenues may be reduced. We have, in exceptional limited circumstances, while still in contract negotiations, shipped products in advance of and subject to agreement on a definitive contract. We do not record revenue from these shipments until a definitive contract exists. There is risk that we do not ultimately close and sign a definitive contract. If this occurs, the timing of revenue recognition is uncertain and our business would be harmed. In addition, we often commence building custom-made products prior to execution of a contract in order to meet the customer's contemplated launch dates and requirements. Service provider products are generally custom-made for a specific customer and may not be salable to other customers or in other channels. If we have pre-built custom-made products but do not come to agreement on a definitive contract, we may be forced to scrap the custom-made products or re-work them at substantial cost and our business would be harmed.

Further, successful engagements with service provider customers requires a constant analysis of technology trends. If we are unable to anticipate technology trends and service provider customer product needs, and to allocate research and development resources to the right projects, we may not be successful in continuing to sell products to service provider customers. In addition, because our service provider customers command significant resources, including for software support, and demand extremely competitive pricing, certain ODMs have declined to develop service provider products on an ODM basis. Accordingly, as our ODMs increasingly limit development of our service provider products, our service provider business will be harmed if we cannot replace this capability with alternative ODMs or in-house development.

Orders from service providers generally tend to be large but sporadic, which causes our revenues from them to fluctuate and challenges our ability to accurately forecast demand from them. In particular, managing inventory and production of our products for our service provider customers is a challenge. Many of our service provider customers have irregular purchasing requirements. These customers may decide to cancel orders for customized products specific to that customer, and we may not be able to reconfigure and sell those products in other channels. These cancellations could lead to substantial write-offs. In addition, these customers may issue unforecasted orders for products which we may not be able to produce in a timely manner and as such, we may not be able to accept and deliver on such unforecasted orders. In certain cases, we may commit to fixed-price, long term purchase orders, with such orders priced in foreign currencies which could lose value over time in the event of adverse changes in foreign exchange rates. Even if we are selected as a supplier, typically a service provider will also designate a second source supplier, which over time will reduce the aggregate orders that we receive from that service provider. Further, as the technology underlying our products deployed by broadband service providers matures and more competitors offer alternative products with similar technology, we anticipate competing in an extremely price sensitive market and our margins may be affected. If we are unable to introduce new products with sufficiently advanced technology to attract service provider interest in a timely manner, our service provider customers may then require us to lower our prices, or they may choose to purchase products from our competitors. If this occurs, our business would be harmed and our revenues would be reduced.

If we were to lose a service provider customer for any reason, we may experience a material and immediate reduction in forecasted revenue that may cause us to be below our net revenue and operating margin expectations for a particular period of time and therefore adversely affect our stock price. For example, many of our competitors in the service provider space aggressively price their products in order to gain market share. We may not be able to match the lower prices offered by our competitors, and we may choose to forgo lower-margin business opportunities. Many of the service provider customers will seek to purchase from the lowest cost provider, notwithstanding that our products may be higher quality or that our products were previously validated for use on their proprietary network. Accordingly, we may lose customers who have lower, more aggressive pricing, and our revenues may be reduced. In addition, service providers may choose to prioritize the implementation of other technologies or the roll out of other services than home networking. Weakness in orders from this industry could have a material adverse effect on our business, operating results, and financial condition. We have seen slowdowns in capital expenditures by certain of our service provider customers in the past, and believe there may be potential for similar slowdowns in the future. Any slowdown in the general economy, over supply, consolidation among service providers, regulatory developments and constraint on capital expenditures could result in reduced demand from service providers and therefore adversely affect our sales to them. If we do not successfully overcome these challenges, we will not be able to profitably manage our service provider sales channel and our financial results will be harmed.

The average selling prices of our products typically decrease rapidly over the sales cycle of the product, which may negatively affect our net revenue and gross margins.

Our products typically experience price erosion, a fairly rapid reduction in the average unit selling prices over their respective sales cycles. In order to sell products that have a falling average unit selling price and maintain margins at the same time, we need to continually reduce product and manufacturing costs. To manage manufacturing costs, we must collaborate with our third-party manufacturers to engineer the most cost-effective design for our products. In addition, we must carefully manage the price paid for components used in our products. We must also successfully manage our freight and inventory costs to reduce overall product costs. We also need to continually introduce new products with higher sales prices and gross margins in order to maintain our overall gross margins. If we are unable to manage the cost of older products or successfully introduce new products with higher gross margins, our net revenue and overall gross margin would likely decline.

We depend substantially on our sales channels, and our failure to maintain and expand our sales channels would result in lower sales and reduced net revenue.

To maintain and grow our market share, net revenue and brand, we must maintain and expand our sales channels. Our sales channels consist of traditional retailers, online retailers, DMRs, VARs, and broadband service providers. Some of these entities purchase our products through our wholesale distributor customers. We generally have no minimum purchase commitments or long-term contracts with any of these third parties.

Traditional retailers have limited shelf space and promotional budgets, and competition is intense for these resources. If the networking sector does not experience sufficient growth, retailers may choose to allocate more shelf space to other consumer product sectors. A competitor with more extensive product lines and stronger brand identity may have greater bargaining power with these retailers. Any reduction in available shelf space or increased competition for such shelf space would require us to increase our marketing expenditures simply to maintain current levels of retail shelf space, which would harm our operating margin. Our traditional retail customers have faced increased and significant competition from online retailers. If we cannot effectively manage our business amongst our online customers and traditional retail customers, our business would be harmed. The recent trend in the consolidation of online retailers and DMR channels has resulted in intensified competition for preferred product placement, such as product placement on an online retailer's Internet home page. Expanding our presence in the VAR channel may be difficult and expensive. We compete with established companies that have longer operating histories and longstanding relationships with VARs that we would find highly desirable as sales channel partners. In addition, our efforts to realign or consolidate our sales channels may cause temporary disruptions in our product sales and revenue, and these changes may not result in the expected longer-term benefits.

We also sell products to broadband service providers. Competition for selling to broadband service providers is fierce and intense. Penetrating service provider accounts typically involves a long sales cycle and the challenge of displacing incumbent suppliers with established relationships and field-deployed products. If we are unable to maintain and expand our sales channels, our growth would be limited and our business would be harmed.

We must also continuously monitor and evaluate emerging sales channels. If we fail to establish a presence in an important developing sales channel, our business could be harmed.

If we lose the services of our Chairman and Chief Executive Officer, Patrick C.S. Lo, or our other key personnel, we may not be able to execute our business strategy effectively.

Our future success depends in large part upon the continued services of our key technical, engineering, sales, marketing, finance and senior management personnel. In particular, the services of Patrick C.S. Lo, our Chairman and Chief Executive Officer, who has led our company since its inception, are very important to our business. We do not maintain any key person life insurance policies. Our business model requires extremely skilled and experienced senior management who are able to withstand the rigorous requirements and expectations of our business. Our success depends on senior management being able to execute at a very high level. The loss of any of our senior management or other key engineering, research, development, sales or marketing personnel, particularly if lost to competitors, could harm our ability to implement our business strategy and respond to the rapidly changing needs of our business. While we have adopted an emergency succession plan for the short term, we have not formally adopted a long-term succession plan. As a result, if we suffer the loss of services of any key executive, our long-term business results may be harmed. While we believe that we have mitigated some of the business execution and business continuity risk with our organization into two business segments with separate leadership teams, the loss of any key personnel would still be disruptive and harm our business, especially given that our business is leanly staffed and relies on the expertise and high performance of our key personnel. In addition, because we do not have a formal long-term succession plan, we may not be able to have the proper personnel in place to effectively execute our long term business strategy if Mr. Lo or other key personnel retire, resign or are otherwise terminated.

Changes in tax laws or exposure to additional income tax liabilities could affect our future profitability.

Factors that could materially affect our future effective tax rates include but are not limited to:

- changes in tax laws or the regulatory environment;
- changes in accounting and tax standards or practices;

- changes in the composition of operating income by tax jurisdiction; and
- our operating results before taxes.

We are subject to income taxes in the United States and numerous foreign jurisdictions. Our effective tax rate has fluctuated in the past and may fluctuate in the future. Future effective tax rates could be affected by changes in the composition of earnings in countries with differing tax rates, changes in deferred tax assets and liabilities, or changes in tax laws. Foreign jurisdictions have increased the volume of tax audits of multinational corporations. Further, many countries, have either changed or are considering changes to their tax laws. These changes are largely punitive to U.S. multinational corporations. Changes in tax laws could affect the distribution of our earnings, result in double taxation and adversely affect our results. On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (the “Tax Act”) was signed into law making significant changes to the Internal Revenue Code. In particular, sweeping changes were made to the U.S. taxation of foreign operations. Changes include, but are not limited to, a corporate tax rate decrease from 35% to 21% effective for tax years beginning after December 31, 2017, the transition of U.S. international taxation from a worldwide tax system to a quasi-territorial system, and a one-time transition tax on the mandatory deemed repatriation of cumulative foreign earnings. Additionally, new provisions were added to mitigate the potential erosion of the U.S. tax base and to discourage use of low tax jurisdictions to own intellectual property and other valuable intangible assets. The Company completed its analysis of the impact of the Tax Act and has finalized all estimates previously considered provisional under Staff Accounting Bulletin 118 in the fourth quarter of 2018. The changes in tax law under the Tax Act are complex and regulations governing the implementation continue to be issued. While the Company believes it has correctly accounted for the impact of the Tax Act, guidance continues to be issued and may differ from our interpretation based on existing facts and circumstances.

In addition to the impact of the Tax Act on our federal taxes, the Tax Act may impact our taxation in other jurisdictions, including with respect to state income taxes. Additionally, other foreign governing bodies may enact changes in their tax laws in reaction to the Tax Act that could result in changes in our global tax position and materially affect our financial position.

We have been audited by the Italian Tax Authority (ITA) for the 2004 through 2012 tax years. The ITA examination included an audit of income, gross receipts and value-added taxes. Currently, we are in litigation with the ITA for the 2004 through 2012 years. If we are unsuccessful in defending our tax positions, our profitability will be reduced.

We are also subject to examination by other tax authorities, including state revenue agencies and other foreign governments. While we regularly assess the likelihood of favorable or unfavorable outcomes resulting from examinations by the IRS and other tax authorities to determine the adequacy of our provision for income taxes, there can be no assurance that the actual outcome resulting from these examinations will not materially adversely affect our financial condition and operating results. Additionally, the IRS and several foreign tax authorities have increasingly focused attention on intercompany transfer pricing with respect to sales of products and services and the use of intangibles. Tax authorities could disagree with our intercompany charges, cross-jurisdictional transfer pricing or other matters and assess additional taxes. If we do not prevail in any such disagreements, our profitability may be affected.

Our separation from Arlo and the distribution of Arlo shares to our stockholders may not achieve some or all of the anticipated benefits and may adversely affect our business.

On February 6, 2018, we announced that our Board of Directors had unanimously approved the pursuit of a separation of our smart camera business “Arlo” from NETGEAR (the “Separation”), to be effected by way of initial public offering (“IPO”) and spin-off. On August 7, 2018, Arlo Technologies, Inc. (“Arlo”) completed its IPO and generated proceeds of approximately $170.2 million, net of offering costs. Upon completion of the IPO, we held 62,500,000 shares of Arlo common stock, representing approximately 84.2% of the outstanding shares of Arlo common stock. On December 31, 2018, we completed the distribution of these 62,500,000 shares to our stockholders (the “Distribution”), and we no longer own any shares of Arlo common stock after the Distribution.

There is a risk that we may not be able to achieve the full strategic, operational and financial benefits to us and Arlo that were anticipated to result from the Separation or that such benefits may be delayed or not occur at all. In fact, the Distribution may adversely affect our business. Following the Distribution, we are a smaller company with a less diversified product portfolio and a narrower business focus. As a result, we may be more vulnerable to changing market conditions, which could materially and adversely affect our business, financial condition and results of operations. Although NETGEAR and Arlo are now two independent companies, our long joint history may cause consumers and investors to continue to associate the companies with each other, either positively or negatively.

We could incur significant liability if the Distribution is determined to be a taxable transaction.

We have received an opinion from outside tax counsel to the effect that the Distribution qualifies as a transaction that is generally tax-free for U.S. federal income tax purposes. The opinion relies on certain facts, assumptions, representations and undertakings from Arlo and us regarding the past and future conduct of the companies' respective businesses and other matters. If any of these facts, assumptions, representations or undertakings are incorrect or not satisfied, our stockholders and we may not be able to rely on the opinion of tax counsel and could be subject to significant tax liabilities. Notwithstanding the opinion of tax counsel we have received, the IRS could determine on audit that the Distribution is taxable if it determines that any of these facts, assumptions, representations or undertakings are not correct or have been violated or if it disagrees with the conclusions in the opinion. If the Distribution were determined to be taxable for U.S. federal income tax purposes, in general, we would recognize taxable gain as if we had sold Arlo common stock in a taxable sale for its fair market value, and our stockholders who received shares of Arlo common stock in the Distribution would be subject to tax as if they had received a taxable distribution equal to the fair market value of such shares.

We may be exposed to claims and liabilities as a result of the Distribution.

We entered into a separation agreement and various other agreements with Arlo to govern the Distribution and the relationship of the two companies going forward. These agreements provide for specific indemnity and liability obligations and could lead to disputes between us and Arlo. The indemnity rights we have against Arlo under the agreements may not be sufficient to protect us, for example if our losses exceeded our indemnity rights or if Arlo did not have the financial resources to meet its indemnity obligations. In addition, our indemnity obligations to Arlo may be significant, and these risks could negatively affect our results of operations and financial condition.

Our sales and operations in international markets expose us to operational, financial and regulatory risks.

International sales comprise a significant amount of our overall net revenue. International sales were approximately 36% of overall net revenue in fiscal 2019 and approximately 35% of overall net revenue in fiscal 2018. We continue to be committed to growing our international sales, and while we have committed resources to expanding our international operations and sales channels, these efforts may not be successful. International operations are subject to a number of other risks, including:

- exchange rate fluctuations;
- political and economic instability, international terrorism and anti-American sentiment, particularly in emerging markets;
- potential for violations of anti-corruption laws and regulations, such as those related to bribery and fraud;
- preference for locally branded products, and laws and business practices favoring local competition;
- changes in local tax and customs duty laws or changes in the enforcement, application or interpretation of such laws (including potential responses to the higher tariffs on certain imported products announced by the current U.S. administration);
- consequences of, and uncertainty related to, the "Brexit" process by the United Kingdom and the current transition, which could lead to additional expense and complexity in doing business there;
- increased difficulty in managing inventory;

- delayed revenue recognition;
- less effective protection of intellectual property;
- stringent consumer protection and product compliance regulations, including but not limited to the Restriction of Hazardous Substances directive, the Waste Electrical and Electronic Equipment directive and the European Ecodesign directive, or EuP, that are costly to comply with and may vary from country to country;
- difficulties and costs of staffing and managing foreign operations; and
- business difficulties, including potential bankruptcy or liquidation, of any of our worldwide third party logistics providers.

While we believe we generally have good relations with our employees, employees in certain jurisdictions have rights which give them certain collective rights. If management must expend significant resources and effort to address and comply with these rights, our business may be harmed. We are also required to comply with local environmental legislation and our customers rely on this compliance in order to sell our products. If our customers do not agree with our interpretations and requirements of new legislation, they may cease to order our products and our revenue would be harmed.

We must comply with indirect tax laws in multiple jurisdictions, as well as complex customs duty regimes worldwide. Audits of our compliance with these rules may result in additional liabilities for taxes, duties, interest and penalties related to our international operations which would reduce our profitability.

Our operations are routinely subject to audit by tax authorities in various countries. Many countries have indirect tax systems where the sale and purchase of goods and services are subject to tax based on the transaction value. These taxes are commonly referred to as sales and/or use tax, value-added tax (VAT) or goods and services tax (GST). In addition, the distribution of our products subjects us to numerous complex customs regulations, which frequently change over time. Failure to comply with these systems and regulations can result in the assessment of additional taxes, duties, interest and penalties. While we believe we are in compliance with local laws, we cannot assure that tax and customs authorities would agree with our reporting positions and upon audit may assess us additional taxes, duties, interest and penalties.

Additionally, some of our products are subject to U.S. export controls, including the Export Administration Regulations and economic sanctions administered by the Office of Foreign Assets Control. We also incorporate encryption technology into certain of our solutions. These encryption solutions and underlying technology may be exported outside of the United States only with the required export authorizations or exceptions, including by license, a license exception, appropriate classification notification requirement and encryption authorization.

Furthermore, our activities are subject to U.S. economic sanctions laws and regulations that prohibit the shipment of certain products and services without the required export authorizations, including to countries, governments and persons targeted by U.S. embargoes or sanctions. Additionally, the current U.S. administration has been critical of existing trade agreements and may impose more stringent export and import controls. Obtaining the necessary export license or other authorization for a particular sale may be time consuming, and may result in delay or loss of sales opportunities even if the export license ultimately is granted. While we take precautions to prevent our solutions from being exported in violation of these laws, including using authorizations or exceptions for our encryption products and implementing IP address blocking and screenings against U.S. government and international lists of restricted and prohibited persons and countries, we have not been able to guarantee, and cannot guarantee that the precautions we take will prevent all violations of export control and sanctions laws, including if purchasers of our products bring our products and services into sanctioned countries without our knowledge. Violations of U.S. sanctions or export control laws can result in significant fines or penalties and incarceration could be imposed on employees and managers for criminal violations of these laws.

Also, various countries, in addition to the United States, regulate the import and export of certain encryption and other technology, including import and export licensing requirements, and have enacted laws that could limit our ability to distribute our products and services or our end-users' ability to utilize our solutions in their countries. Changes in our products and services or changes in import and export regulations may create delays in the introduction of our products in international markets.

Adverse action by any government agencies related to indirect tax laws could materially adversely affect our business, operating results and financial condition.

If our products contain defects or errors, we could incur significant unexpected expenses, experience product returns and lost sales, experience product recalls, suffer damage to our brand and reputation, and be subject to product liability or other claims.

Our products are complex and may contain defects, errors or failures, particularly when first introduced or when new versions are released. The industry standards upon which many of our products are based are also complex, experience change over time and may be interpreted in different manners. Some errors and defects may be discovered only after a product has been installed and used by the end-user.

In addition, epidemic failure clauses are found in certain of our customer contracts, especially contracts with service providers. If invoked, these clauses may entitle the customer to return for replacement or obtain credits for products and inventory, as well as assess liquidated damage penalties and terminate an existing contract and cancel future or then current purchase orders. In such instances, we may also be obligated to cover significant costs incurred by the customer associated with the consequences of such epidemic failure, including freight and transportation required for product replacement and out-of-pocket costs for truck rolls to end user sites to collect the defective products. Costs or payments we make in connection with an epidemic failure may materially adversely affect our results of operations and financial condition. If our products contain defects or errors, or are found to be noncompliant with industry standards, we could experience decreased sales and increased product returns, loss of customers and market share, and increased service, warranty and insurance costs. In addition, defects in, or misuse of, certain of our products could cause safety concerns, including the risk of property damage or personal injury. If any of these events occurred, our reputation and brand could be damaged, and we could face product liability or other claims regarding our products, resulting in unexpected expenses and adversely impacting our operating results. For instance, if a third party were able to successfully overcome the security measures in our products, such a person or entity could misappropriate customer data, third party data stored by our customers and other information, including intellectual property. In addition, the operations of our end-user customers may be interrupted. If that happens, affected end-users or others may file actions against us alleging product liability, tort, or breach of warranty claims.

Political events, war, terrorism, public health issues, natural disasters, sudden changes in trade and immigration policies, and other circumstances could materially adversely affect us.

Our corporate headquarters are located in Northern California and one of our warehouses is located in Southern California, both of which are regions known for seismic activity. Substantially all of our critical enterprise-wide information technology systems, including our main servers, are currently housed in colocation facilities in Mesa, Arizona. While our critical information technology systems are located at colocation facilities in a different geographic region in the United States, our headquarters and warehouses remain susceptible to seismic activity so long as they are located in California. In addition, the majority of our manufacturing occurs in Southeast Asia and mainland China, where disruptions from natural disasters, health epidemics and political, social and economic instability may affect the region. If our manufacturers or warehousing facilities are disrupted or destroyed, we would be unable to distribute our products on a timely basis, which could harm our business.

In addition, war, terrorism, geopolitical uncertainties, public health issues, sudden changes in trade and immigration policies (such as the higher tariffs on certain products imported from China enacted by the current U.S. administration), and other business interruptions have caused and could cause damage or disruption to international commerce and the global economy, and thus could have a strong negative effect on us, our suppliers, logistics providers, manufacturing vendors and customers. Our business operations are subject to interruption by natural disasters, fire, power shortages, terrorist attacks and other hostile acts, labor disputes, public health issues, and other events beyond our control. For example, multiple governments and health organizations have declared the recent serious outbreak of the COVID-19 disease in Greater China to be a public health emergency. Steps taken to minimize the continued spread of this virus, including the temporary closure of factories, businesses, schools and public spaces, travel restrictions, as well as overall public concern, present logistical and market challenges to companies that do business in the region, particularly if these circumstances continue for a substantial period of time or worsen. In addition, in the past, labor disputes at third-party manufacturing facilities have led to workers going on strike, and labor unrest could materially affect our third-party manufacturers' abilities to manufacture our products.

Such events could decrease demand for our products, make it difficult, more expensive or impossible for us to make and deliver products to our customers or to receive components from our direct or indirect suppliers, and create delays and inefficiencies in our supply chain. Major public health issues, including pandemics and potentially the COVID-19 disease outbreak, could negatively affect us through more stringent employee travel restrictions, additional limitations in freight services, governmental actions limiting the movement of products between regions, delays in production ramps of new products, and disruptions in the operations of our manufacturing vendors and component suppliers.

We are currently involved in numerous litigation matters in the ordinary course and may in the future become involved in additional litigation, including litigation regarding intellectual property rights, consumer class actions and securities class actions, any of which could be costly and subject us to significant liability.

The networking industry is characterized by the existence of a large number of patents and frequent claims and related litigation regarding infringement of patents, trade secrets and other intellectual property rights. In particular, leading companies in the data communications markets, some of which are our competitors, have extensive patent portfolios with respect to networking technology. From time to time, third parties, including these leading companies, have asserted and may continue to assert exclusive patent, copyright, trademark and other intellectual property rights against us demanding license or royalty payments or seeking payment for damages, injunctive relief and other available legal remedies through litigation. These also include third-party non-practicing entities who claim to own patents or other intellectual property that cover industry standards that our products comply with. If we are unable to resolve these matters or obtain licenses on acceptable or commercially reasonable terms, we could be sued or we may be forced to initiate litigation to protect our rights. The cost of any necessary licenses could significantly harm our business, operating results and financial condition. We may also choose to join defensive patent aggregation services in order to prevent or settle litigation against such non-practicing entities and avoid the associated significant costs and uncertainties of litigation. These patent aggregation services may obtain, or have previously obtained, licenses for the alleged patent infringement claims against us and other patent assets that could be used offensively against us. The costs of such defensive patent aggregation services, while potentially lower than the costs of litigation, may be significant as well. At any time, any of these non-practicing entities, or any other third-party could initiate litigation against us, or we may be forced to initiate litigation against them, which could divert management attention, be costly to defend or prosecute, prevent us from using or selling the challenged technology, require us to design around the challenged technology and cause the price of our stock to decline. In addition, third parties, some of whom are potential competitors, have initiated and may continue to initiate litigation against our manufacturers, suppliers, members of our sales channels or our service provider customers or even end user customers, alleging infringement of their proprietary rights with respect to existing or future products. In the event successful claims of infringement are brought by third parties, and we are unable to obtain licenses or independently develop alternative technology on a timely basis, we may be subject to indemnification obligations, be unable to offer competitive products, or be subject to increased expenses. Consumer class-action lawsuits related to the marketing and performance of our home networking products have been asserted and may in the future be asserted against us. Finally, along with Arlo Technologies and individuals and underwriters involved in Arlo's initial public offering, we have been sued in securities class action lawsuits, and may in the future be named in other similar lawsuits. For additional information regarding certain of the lawsuits in which we are involved, see the information set forth in Note 10. Commitments and Contingencies, in the Notes to Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K. If we do not resolve these claims on a favorable basis, our business, operating results and financial condition could be significantly harmed.

As part of growing our business, we have made and expect to continue to make acquisitions. If we fail to successfully select, execute or integrate our acquisitions, then our business and operating results could be harmed and our stock price could decline.

From time to time, we will undertake acquisitions to add new product lines and technologies, gain new sales channels or enter into new sales territories. For example, in August 2018, we acquired Meural Inc., a leader in digital platforms for visual art, to enhance our Connected Home product and service offerings. Acquisitions involve numerous risks and challenges, including but not limited to the following:

- integrating the companies, assets, systems, products, sales channels and personnel that we acquire;
- higher than anticipated acquisition and integration costs and expenses;
- reliance on third parties to provide transition services for a period of time after closing to ensure an orderly transition of the business;
- growing or maintaining revenues to justify the purchase price and the increased expenses associated with acquisitions;
- entering into territories or markets with which we have limited or no prior experience;
- establishing or maintaining business relationships with customers, vendors and suppliers who may be new to us;
- overcoming the employee, customer, vendor and supplier turnover that may occur as a result of the acquisition;
- disruption of, and demands on, our ongoing business as a result of integration activities including diversion of management's time and attention from running the day to day operations of our business;
- inability to implement uniform standards, disclosure controls and procedures, internal controls over financial reporting and other procedures and policies in a timely manner;
- inability to realize the anticipated benefits of or successfully integrate with our existing business the businesses, products, technologies or personnel that we acquire; and
- potential post-closing disputes.

As part of undertaking an acquisition, we may also significantly revise our capital structure or operational budget, such as issuing common stock that would dilute the ownership percentage of our stockholders, assuming liabilities or debt, utilizing a substantial portion of our cash resources to pay for the acquisition or significantly increasing operating expenses. Our acquisitions have resulted and may in the future result in charges being taken in an individual quarter as well as future periods, which results in variability in our quarterly earnings. In addition, our effective tax rate in any particular quarter may also be impacted by acquisitions. Following the closing of an acquisition, we may also have disputes with the seller regarding contractual requirements and covenants. Any such disputes may be time consuming and distract management from other aspects of our business. In addition, if we increase the pace or size of acquisitions, we will have to expend significant management time and effort into the transactions and the integrations and we may not have the proper human resources bandwidth to ensure successful integrations and accordingly, our business could be harmed.

As part of the terms of acquisition, we may commit to pay additional contingent consideration if certain revenue or other performance milestones are met. We are required to evaluate the fair value of such commitments at each reporting date and adjust the amount recorded if there are changes to the fair value.

We cannot ensure that we will be successful in selecting, executing and integrating acquisitions. Failure to manage and successfully integrate acquisitions could materially harm our business and operating results. In addition, if stock market analysts or our stockholders do not support or believe in the value of the acquisitions that we choose to undertake, our stock price may decline.

We invest in companies for both strategic and financial reasons, but may not realize a return on our investments.

We have made, and continue to seek to make, investments in companies around the world to further our strategic objectives and support our key business initiatives. These investments may include equity or debt instruments of public or private companies, and may be non-marketable at the time of our initial investment. We do not restrict the types of companies in which we seek to invest. These companies may range from early-stage companies that are often still defining their strategic direction to more mature companies with established revenue streams and business models. If any company in which we invest fails, we could lose all or part of our investment in that company. If we determine that an other-than-temporary decline in the fair value exists for an equity or debt investment in a public or private company in which we have invested, we will have to write down the investment to its fair value and recognize the related write-down as an investment loss. The performance of any of these investments could result in significant impairment charges and gains (losses) on other equity investments. We must also analyze accounting and legal issues when making these investments. If we do not structure these investments properly, we may be subject to certain adverse accounting issues, such as potential consolidation of financial results.

Furthermore, if the strategic objectives of an investment have been achieved, or if the investment or business diverges from our strategic objectives, we may seek to dispose of the investment. Our non-marketable equity investments in private companies are not liquid, and we may not be able to dispose of these investments on favorable terms or at all. The occurrence of any of these events could harm our results. Gains or losses from equity securities could vary from expectations depending on gains or losses realized on the sale or exchange of securities and impairment charges related to debt instruments as well as equity and other investments.

We are subject to, and must remain in compliance with, numerous laws and governmental regulations concerning the manufacturing, use, distribution and sale of our products, as well as any such future laws and regulations. Some of our customers also require that we comply with their own unique requirements relating to these matters. Any failure to comply with such laws, regulations and requirements, and any associated unanticipated costs, may adversely affect our business, financial condition and results of operations.

We manufacture and sell products which contain electronic components, and such components may contain materials that are subject to government regulation in both the locations that we manufacture and assemble our products, as well as the locations where we sell our products. For example, certain regulations limit the use of lead in electronic components. To our knowledge, we maintain compliance with all applicable current government regulations concerning the materials utilized in our products, for all the locations in which we operate. Since we operate on a global basis, this is a complex process which requires continual monitoring of regulations and an ongoing compliance process to ensure that we and our suppliers are in compliance with all existing regulations. There are areas where new regulations have been enacted which could increase our cost of the components that we utilize or require us to expend additional resources to ensure compliance. For example, the SEC's “conflict minerals” rules apply to our business, and we are expending significant resources to ensure compliance. The implementation of these requirements by government regulators and our partners and/or customers could adversely affect the sourcing, availability, and pricing of minerals used in the manufacture of certain components used in our products. In addition, the supply-chain due diligence investigation required by the conflict minerals rules will require expenditures of resources and management attention regardless of the results of the investigation. If there is an unanticipated new regulation which significantly impacts our use of various components or requires more expensive components, that regulation would have a material adverse impact on our business, financial condition and results of operations.

One area which has a large number of regulations is the environmental compliance. Management of environmental pollution and climate change has produced significant legislative and regulatory efforts on a global basis, and we believe this will continue both in scope and the number of countries participating. These changes could directly increase the cost of energy which may have an impact on the way we manufacture products or utilize energy to produce our products. In addition, any new regulations or laws in the environmental area might increase the cost of raw materials we use in our products. Environmental regulations require us to reduce product energy usage, monitor and exclude an expanding list of restricted substances and to participate in required recover and recycling of our products. While future changes in regulations are certain, we are currently unable to predict how any such changes will impact us and if such impacts will be material to our business. If there is a new law or regulation that significantly increases our costs of manufacturing or causes us to significantly alter the way that we manufacture our products, this would have a material adverse effect on our business, financial condition and results of operations.

Our selling and distribution practices are also regulated in large part by U.S. federal and state as well as foreign antitrust and competition laws and regulations. In general, the objective of these laws is to promote and maintain free competition by prohibiting certain forms of conduct that tend to restrict production, raise prices, or otherwise control the market for goods or services to the detriment of consumers of those goods and services. Potentially prohibited activities under these laws may include unilateral conduct, or conduct undertaken as the result of an agreement with one or more of our suppliers, competitors, or customers. The potential for liability under these laws can be difficult to predict as it often depends on a finding that the challenged conduct resulted in harm to competition, such as higher prices, restricted supply, or a reduction in the quality or variety of products available to consumers. We utilize a number of different distribution channels to deliver our products to the end consumer, and regularly enter agreements with resellers of our products at various levels in the distribution chain that could be subject to scrutiny under these laws in the event of private litigation or an investigation by a governmental competition authority. In addition, many of our products are sold to consumers via the Internet. Many of the competition-related laws that govern these Internet sales were adopted prior to the advent of the Internet, and, as a result, do not contemplate or address the unique issues raised by online sales. New interpretations of existing laws and regulations, whether by courts or by the state, federal or foreign governmental authorities charged with the enforcement of those laws and regulations, may also impact our business in ways we are currently unable to predict. Any failure on our part or on the part of our employees, agents, distributors or other business partners to comply with the laws and regulations governing competition can result in negative publicity and diversion of management time and effort and may subject us to significant litigation liabilities and other penalties.

In addition to government regulations, many of our customers require us to comply with their own requirements regarding manufacturing, health and safety matters, corporate social responsibility, employee treatment, anti-corruption, use of materials and environmental concerns. Some customers may require us to periodically report on compliance with their unique requirements, and some customers reserve the right to audit our business for compliance. We are increasingly subject to requests for compliance with these customer requirements. For example, there has been significant focus from our customers as well as the press regarding corporate social responsibility policies. Recently, a number of jurisdictions have adopted public disclosure requirements on related topics, including labor practices and policies within companies' supply chains. We regularly audit our manufacturers; however, any deficiencies in compliance by our manufacturers may harm our business and our brand. In addition, we may not have the resources to maintain compliance with these customer requirements and failure to comply may result in decreased sales to these customers, which may have a material adverse effect on our business, financial condition and results of operations.

We are exposed to the credit risk of some of our customers and to credit exposures in weakened markets, which could result in material losses.

A substantial portion of our sales are on an open credit basis, with typical payment terms of 30 to 60 days in the United States and, because of local customs or conditions, longer in some markets outside the United States. We monitor individual customer financial viability in granting such open credit arrangements, seek to limit such open credit to amounts we believe the customers can pay, and maintain reserves we believe are adequate to cover exposure for doubtful accounts.

In the past, there have been bankruptcies amongst our customer base, and certain of our customers' businesses face financial challenges that put them at risk of future bankruptcies. Although losses resulting from customer bankruptcies have not been material to date, any future bankruptcies could harm our business and have a material adverse effect on our operating results and financial condition. To the degree that turmoil in the credit markets makes it more difficult for some customers to obtain financing, our customers' ability to pay could be adversely impacted, which in turn could have a material adverse impact on our business, operating results, and financial condition.

If our goodwill or intangible assets become impaired we may be required to record a significant charge to earnings.

Under generally accepted accounting principles, we review our intangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Goodwill is required to be tested for impairment at least annually. Factors that may be considered when determining if the carrying value of our goodwill or intangible assets may not be recoverable include a significant decline in our expected future cash flows or a sustained, significant decline in our stock price and market capitalization.

As a result of our acquisitions, we have significant goodwill and intangible assets recorded on our balance sheets. In addition, significant negative industry or economic trends, such as those that have occurred as a result of the recent economic downturn, including reduced estimates of future cash flows or disruptions to our business could indicate that goodwill or intangible assets might be impaired. If, in any period our stock price decreases to the point where our market capitalization is less than our book value, this too could indicate a potential impairment and we may be required to record an impairment charge in that period. Our valuation methodology for assessing impairment requires management to make judgments and assumptions based on projections of future operating performance. The estimates used to calculate the fair value of a reporting unit change from year to year based on operating results and market conditions. Changes in these estimates and assumptions could materially affect the determination of fair value and goodwill impairment for each reporting unit. We operate in highly competitive environments and projections of future operating results and cash flows may vary significantly from actual results. As a result, we may incur substantial impairment charges to earnings in our financial statements should an impairment of our goodwill or intangible assets be determined resulting in an adverse impact on our results of operations.

We are required to evaluate our internal controls under Section 404 of the Sarbanes-Oxley Act of 2002 and any adverse results from such evaluation, including restatements of our issued financial statements, could impact investor confidence in the reliability of our internal controls over financial reporting.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, we are required to furnish a report by our management on our internal control over financial reporting. Such report must contain among other matters, an assessment of the effectiveness of our internal control over financial reporting as of the end of our fiscal year, including a statement as to whether or not our internal control over financial reporting is effective. This assessment must include disclosure of any material weaknesses in our internal control over financial reporting identified by management. From time to time, we conduct internal investigations as a result of whistleblower complaints. In some instances, the whistleblower complaint may implicate potential areas of weakness in our internal controls. Although all known material weaknesses have been remediated, we cannot be certain that the measures we have taken ensure that restatements will not occur in the future. Execution of restatements create a significant strain on our internal resources and could cause delays in our filing of quarterly or annual financial results, increase our costs and cause management distraction. Restatements may also significantly affect our stock price in an adverse manner.

Continued performance of the system and process documentation and evaluation needed to comply with Section 404 is both costly and challenging. During this process, if our management identifies one or more material weaknesses in our internal control over financial reporting, we will be unable to assert such internal control is effective. If we are unable to assert that our internal control over financial reporting is effective as of the end of a fiscal year or if our independent registered public accounting firm is unable to express an opinion on the effectiveness of our internal control over financial reporting, we could lose investor confidence in the accuracy and completeness of our financial reports, which may have an adverse effect on our stock price.

If disruptions in our transportation network occur or our shipping costs substantially increase, we may be unable to sell or timely deliver our products, and our operating expenses could increase.

We are highly dependent upon the transportation systems we use to ship our products, including surface and air freight. Our attempts to closely match our inventory levels to our product demand intensify the need for our transportation systems to function effectively and without delay. On a quarterly basis, our shipping volume also tends to steadily increase as the quarter progresses, which means that any disruption in our transportation network in the latter half of a quarter will likely have a more material effect on our business than at the beginning of a quarter.

The transportation network is subject to disruption or congestion from a variety of causes, including labor disputes or port strikes, acts of war or terrorism, natural disasters and congestion resulting from higher shipping volumes. Labor disputes among freight carriers and at ports of entry are common, particularly in Europe, and we expect labor unrest and its effects on shipping our products to be a continuing challenge for us. A port worker strike, work slow-down or other transportation disruption in Long Beach, California, where we have a significant distribution center, could significantly disrupt our business. For example, a series of work stoppages and slow-downs arising from labor disputes at the Long Beach port and other West Coast ports, particularly in the first quarter of 2015, negatively impacted our ability to timely deliver certain product shipments to the United States and resulted in additional transportation expense. Our international freight is regularly subjected to inspection by governmental entities. If our delivery times increase unexpectedly for these or any other reasons, our ability to deliver products on time would be materially adversely affected and result in delayed or lost revenue as well as customer imposed penalties. In addition, if increases in fuel prices occur, our transportation costs would likely increase. Moreover, the cost of shipping our products by air freight is greater than other methods. From time to time in the past, we have shipped products using extensive air freight to meet unexpected spikes in demand, shifts in demand between product categories, to bring new product introductions to market quickly and to timely ship products previously ordered. If we rely more heavily upon air freight to deliver our products, our overall shipping costs will increase. A prolonged transportation disruption or a significant increase in the cost of freight could severely disrupt our business and harm our operating results.

Expansion of our operations and infrastructure may strain our operations and increase our operating expenses.

We have expanded our operations and are pursuing market opportunities both domestically and internationally in order to grow our sales. This expansion has required enhancements to our existing management information systems, and operational and financial controls. In addition, if we continue to grow, our expenditures would likely be significantly higher than our historical costs. We may not be able to install adequate controls in an efficient and timely manner as our business grows, and our current systems may not be adequate to support our future operations. The difficulties associated with installing and implementing new systems, procedures and controls may place a significant burden on our management, operational and financial resources. In addition, if we grow internationally, we will have to expand and enhance our communications infrastructure. If we fail to continue to improve our management information systems, procedures and financial controls or encounter unexpected difficulties during expansion and reorganization, our business could be harmed.

For example, we have invested, and will continue to invest, significant capital and human resources in the design and enhancement of our financial and enterprise resource planning systems, which may be disruptive to our underlying business. We depend on these systems in order to timely and accurately process and report key components of our results of operations, financial position and cash flows. If the systems fail to operate appropriately or we experience any disruptions or delays in enhancing their functionality to meet current business requirements, our ability to fulfill customer orders, bill and track our customers, fulfill contractual obligations, accurately report our financials and otherwise run our business could be adversely affected. Even if we do not encounter these adverse effects, the enhancement of systems may be much more costly than we anticipated. If we are unable to continue to enhance our information technology systems as planned, our financial position, results of operations and cash flows could be negatively impacted.

We rely upon third parties for technology that is critical to our products, and if we are unable to continue to use this technology and future technology, our ability to develop, sell, maintain and support technologically innovative products would be limited.

We rely on third parties to obtain non-exclusive patented hardware and software license rights in technologies that are incorporated into and necessary for the operation and functionality of most of our products. In these cases, because the intellectual property we license is available from third parties, barriers to entry into certain markets may be lower for potential or existing competitors than if we owned exclusive rights to the technology that we license and use. Moreover, if a competitor or potential competitor enters into an exclusive arrangement with any of our key third-party technology providers, or if any of these providers unilaterally decide not to do business with us for any reason, our ability to develop and sell products containing that technology would be severely limited. If we are shipping products that contain third-party technology that we subsequently lose the right to license, then we will not be able to continue to offer or support those products. In addition, these licenses often require royalty payments or other consideration to the third party licensor. Our success will depend, in part, on our continued ability to access these technologies, and we do not know whether these third-party technologies will continue to be licensed to us on commercially acceptable terms, if at all. If we are unable to license the necessary technology, we may be forced to acquire or develop alternative technology of lower quality or performance standards, which would limit and delay our ability to offer new or competitive products and increase our costs of production. As a result, our margins, market share, and operating results could be significantly harmed.

We also utilize third-party software development companies to develop, customize, maintain and support software that is incorporated into our products. If these companies fail to timely deliver or continuously maintain and support the software, as we require of them, we may experience delays in releasing new products or difficulties with supporting existing products and customers. In addition, if these third-party licensors fail or experience instability, then we may be unable to continue to sell products that incorporate the licensed technologies in addition to being unable to continue to maintain and support these products. We do require escrow arrangements with respect to certain third-party software which entitle us to certain limited rights to the source code, in the event of certain failures by the third party, in order to maintain and support such software. However, there is no guarantee that we would be able to fully understand and use the source code, as we may not have the expertise to do so. We are increasingly exposed to these risks as we continue to develop and market more products containing third-party software, such as our TV connectivity, security and network attached storage products. If we are unable to license the necessary technology, we may be forced to acquire or develop alternative technology, which could be of lower quality or performance standards. The acquisition or development of alternative technology may limit and delay our ability to offer new or competitive products and services and increase our costs of production. As a result, our business, operating results and financial condition could be materially adversely affected.

If we are unable to secure and protect our intellectual property rights, our ability to compete could be harmed.

We rely upon third parties for a substantial portion of the intellectual property that we use in our products. At the same time, we rely on a combination of copyright, trademark, patent and trade secret laws, nondisclosure agreements with employees, consultants and suppliers and other contractual provisions to establish, maintain and protect our intellectual property rights and technology. Despite efforts to protect our intellectual property, unauthorized third parties may attempt to design around, copy aspects of our product design or obtain and use technology or other intellectual property associated with our products. For example, one of our primary intellectual property assets is the NETGEAR name, trademark and logo. We may be unable to stop third parties from adopting similar names, trademarks and logos, particularly in those international markets where our intellectual property rights may be less protected. Furthermore, our competitors may independently develop similar technology or design around our intellectual property. In addition, we manufacture and sell our products in many international jurisdictions that offer reduced levels of protection and recourse from intellectual property misuse or theft, as compared to the United States. Our inability to secure and protect our intellectual property rights could significantly harm our brand and business, operating results and financial condition.

Governmental regulations of imports or exports affecting Internet security could affect our net revenue.

Any additional governmental regulation of imports or exports or failure to obtain required export approval of our encryption technologies could adversely affect our international and domestic sales. The United States and various foreign governments have imposed controls, export license requirements, and restrictions on the import or export of some technologies, particularly encryption technology. In addition, from time to time, governmental agencies have proposed additional regulation of encryption technology, such as requiring the escrow and governmental recovery of private encryption keys. In response to terrorist activity, governments could enact additional regulation or restriction on the use, import, or export of encryption technology. This additional regulation of encryption technology could delay or prevent the acceptance and use of encryption products and public networks for secure communications, resulting in decreased demand for our products and services. In addition, some foreign competitors are subject to less stringent controls on exporting their encryption technologies. As a result, they may be able to compete more effectively than we can in the United States and the international Internet security market.

We are exposed to credit risk and fluctuations in the market values of our investment portfolio.

Although we have not recognized any material losses on our cash equivalents and short-term investments, future declines in their market values could have a material adverse effect on our financial condition and operating results. Given the global nature of our business, we have investments with both domestic and international financial institutions. Accordingly, we face exposure to fluctuations in interest rates, which may limit our investment income. If these financial institutions default on their obligations or their credit ratings are negatively impacted by liquidity issues, credit deterioration or losses, financial results, or other factors, the value of our cash equivalents and short-term investments could decline and result in a material impairment, which could have a material adverse effect on our financial condition and operating results.

Item 1B. ***Unresolved Staff Comments***

None.

Item 2. ***Properties***

Our principal administrative, sales, marketing and research and development facilities currently occupy approximately 142,700 square feet in an office complex in San Jose, California, under a lease that expires in September 2025.

Our international headquarters occupy approximately 10,000 square feet in an office complex in Cork, Ireland, under a lease that expires in December 2026. Our international sales personnel are based out of local sales offices or home offices in Australia, Canada, China, Denmark, France, Germany, Hong Kong, India, Ireland, Italy, Japan, Korea, New Zealand, Poland, Singapore, Spain, Sweden, Switzerland, the Netherlands, and the United Kingdom. We also have operations personnel using leased facilities in Hong Kong, Suzhou, Guangzhou and Tangxia. We maintain research and development facilities in Nanjing (China), Richmond B.C. (Canada), Taipei (Taiwan), and Bangalore (India). From time to time we consider various alternatives related to our long-term facilities' needs. While we believe our existing facilities provide suitable space for our operations and are adequate to meet our immediate needs, it may be necessary to lease additional space to accommodate future growth. We have invested in internal capacity and strategic relationships with outside manufacturing vendors as needed to meet anticipated demand for our products.

We use third parties to provide warehousing services to us, consisting of facilities in Southern California, Netherlands, Hong Kong and the Netherlands and Australia.

Item 3. ***Legal Proceedings***

The information set forth under the heading "Litigation and Other Legal Matters" in Note 10, *Commitments and Contingencies*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K, is incorporated herein by reference. For additional discussion of certain risks associated with legal proceedings, see Item 1A, *Risk Factors*.

Item 4. ***Mine Safety Disclosures***

Not applicable.

PART II

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

Market Information

Our common stock is publicly traded on the Nasdaq Global Select Market ("Nasdaq") under the symbol "NTGR".

Holders of Common Stock

On February 12, 2020, there were 22 stockholders of record, one of which was Cede & Co., a nominee for Depository Trust Company ("DTC"). All of the shares of our common stock held by brokerage firms, banks and other financial institutions as nominees for beneficial owners are deposited into participant accounts at DTC and are therefore considered to be held of record by Cede & Co. as one stockholder.

Dividend Policy

We have never declared or paid cash dividends on our capital stock. We do not anticipate paying cash dividends in the foreseeable future.

Repurchase of Equity Securities by the Company

Period	Total Number of Shares Purchased (2)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1)	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs
September 30, 2019 - October 27, 2019	460,500	$ 32.75	458,019	3,842,080
October 28, 2019 - November 24, 2019	268,872	$ 26.58	263,480	3,578,600
November 25, 2019 - December 31, 2019	9,616	$ 24.58	—	3,578,600
Total	738,988	$ 30.40	721,499	

(1) From time to time, our Board of Directors has authorized programs under which we may repurchase shares of our common stock, depending on market conditions, in the open market or through privately negotiated transactions. During the three months ended December 31, 2019, we repurchased and retired, reported based on trade date, approximately 0.7 million shares of common stock at a cost of $22.0 million under our common stock repurchase program authorized by the Board of Directors.

(2) During the three months ended December 31, 2019, we repurchased and retired, as reported on trade date, approximately 17,000 shares of common stock at a cost of $0.5 million to facilitate tax withholding for RSUs.

Recent Sales of Unregistered Securities

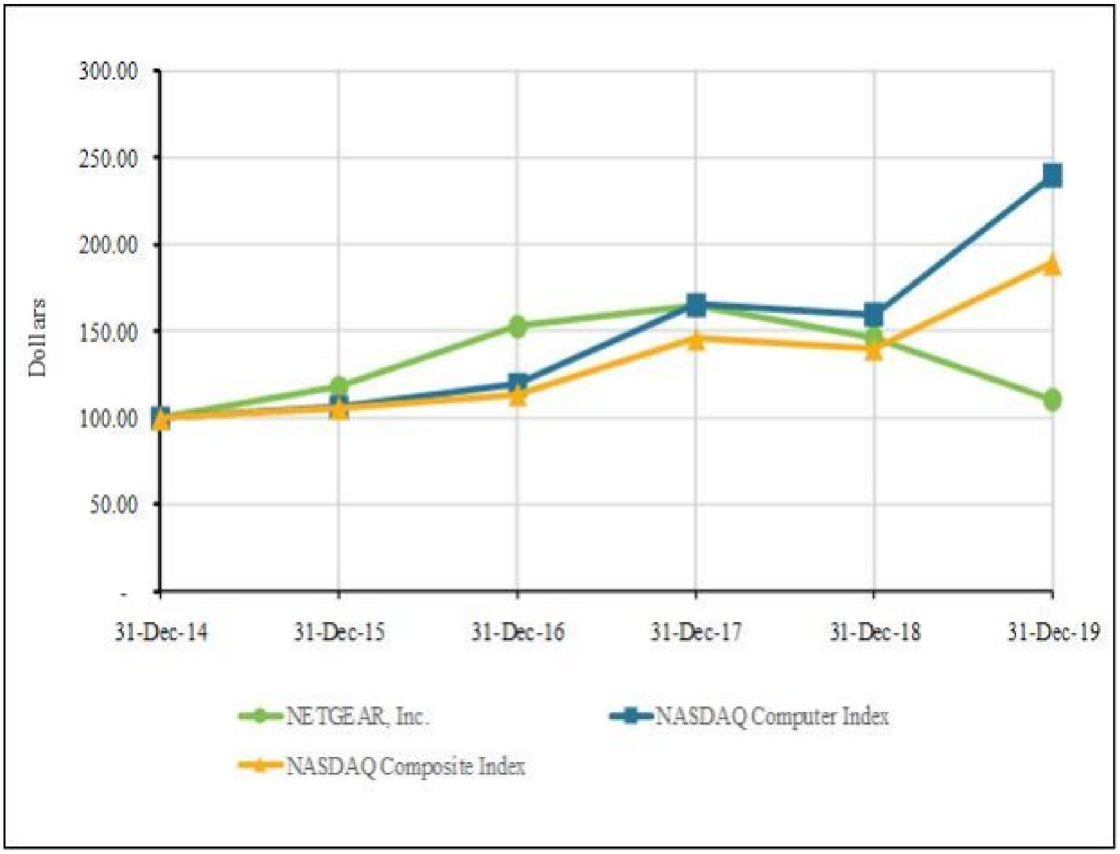
None.

Stock Performance Graph

Notwithstanding any statement to the contrary in any of our previous or future filings with the SEC, the following information relating to the price performance of our common stock shall not be deemed "filed" with the SEC or "soliciting material" under the Exchange Act and shall not be incorporated by reference into any such filings.

The following graph shows a comparison from December 31, 2014 through December 31, 2019 of cumulative total return for our common stock, the Nasdaq Composite Index and the Nasdaq Computer Index. Such returns are based on historical results and are not intended to suggest future performance. Data for the Nasdaq Composite Index and the Nasdaq Computer Index assume reinvestment of dividends. We have never paid dividends on our common stock and have no present plans to do so.

On December 31, 2018, NETGEAR completed the spin-off of Arlo Technologies, Inc. ("Arlo") with the pro rata distribution of 1.980295 shares of Arlo's common stock for every share of NETGEAR's common stock to our stockholders, pursuant to which Arlo became an independent company. For the purpose of this graph, the effect of the final separation of Arlo is reflected in the cumulative total return of NETGEAR Common Stock as a reinvested dividend.



Item 6. ***Selected Financial Data***

Upon Arlo's Distribution on December 31, 2018, Arlo’s historical financial results for periods prior to its Distribution were reflected in our consolidated financial statements as discontinued operations for all periods presented below. The following selected consolidated financial data are qualified in their entirety, and should be read in conjunction with the consolidated financial statements and related notes thereto, and “*Management's Discussion and Analysis of Financial Condition and Results of Operations*” in Item 7 of Part II of this Annual Report on Form 10-K.

We derived the selected consolidated statements of operations data for the years ended December 31, 2019, 2018 and 2017 and the selected consolidated balance sheets data as of December 31, 2019 and 2018 from our audited consolidated financial statements in Item 8 of Part II of this Annual Report on Form 10-K. We derived the selected consolidated statement of operations data for the year ended December 31, 2016 and the selected consolidated balance sheets data as of December 31, 2017 from our audited consolidated financial statements, and the selected consolidated statement of operations data for the year ended December 31, 2015 and the selected consolidated balance sheets data as of December 31, 2016 and 2015 from our unaudited consolidated financial statements, all of which are not included in this Annual Report on Form 10-K. Historical results are not necessarily indicative of results to be expected for future periods.

Consolidated Statements of Operations Data:

	Year Ended December 31,				
	2019	2018	2017	2016	2015
	(In thousands, except per share data)				
Net revenue	$ 998,763	$ 1,058,816	$ 1,039,169	$ 1,143,445	$ 1,211,813
Cost of revenue (2)	704,535	717,118	731,453	769,543	860,437
Gross profit	294,228	341,698	307,716	373,902	351,376
Operating expenses:					
Research and development (2)	77,982	82,416	71,893	70,904	77,356
Sales and marketing (2)	138,150	152,569	138,679	139,591	142,013
General and administrative (2)	49,432	64,857	54,346	53,996	45,237
Other operating expenses, net	2,476	3,142	245	3,914	3,677
Total operating expenses	268,040	302,984	265,163	268,405	268,283
Income from operations	26,188	38,714	42,553	105,497	83,093
Interest income, net	2,539	3,980	2,114	1,164	295
Other income (expense), net	844	510	1,557	(166)	(47)
Income before income taxes	29,571	43,204	46,224	106,495	83,341
Provision for income taxes	3,780	25,878	57,357	36,183	35,946
Net income (loss) from continuing operations	25,791	17,326	(11,133)	70,312	47,395
Net income (loss) from discontinued operations, net of tax	—	(35,655)	30,569	5,539	1,189
Net income (loss)	25,791	(18,329)	19,436	75,851	48,584
Net loss attributable to non-controlling interest in discontinued operations	—	(9,167)	—	—	—
Net income (loss) attributable to NETGEAR, Inc.	$ 25,791	$ (9,162)	$ 19,436	$ 75,851	$ 48,584
Net income (loss) per share - basic: (1)					
Income (loss) from continuing operations	$ 0.83	$ 0.55	$ (0.35)	$ 2.15	$ 1.43
Income (loss) from discontinued operations attributable to NETGEAR, Inc.	—	(0.84)	0.96	0.17	0.04
Net income (loss) attributable to NETGEAR, Inc.	$ 0.83	$ (0.29)	$ 0.61	$ 2.32	$ 1.47
Net income (loss) per share - diluted: (1)					
Income (loss) from continuing operations	$ 0.81	$ 0.52	$ (0.35)	$ 2.08	$ 1.40
Income (loss) from discontinued operations attributable to NETGEAR, Inc.	—	(0.80)	0.96	0.17	0.04
Net income (loss) attributable to NETGEAR, Inc.	$ 0.81	$ (0.28)	$ 0.61	$ 2.25	$ 1.44

(1) Information regarding calculation of per share data is described in Note 7, *Net Income (Loss) Per Share*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K.

(2) Stock-based compensation expense was allocated as follows:

	Year Ended December 31,				
	2019	2018	2017	2016	2015
	(In thousands)				
Cost of revenue	$ 2,843	$ 2,435	$ 1,406	$ 1,473	$ 1,566
Research and development	$ 6,532	$ 4,283	$ 2,968	$ 2,726	$ 2,205
Sales and marketing	$ 9,069	$ 8,267	$ 5,481	$ 4,934	$ 4,876
General and administrative	$ 10,693	$ 11,476	$ 9,114	$ 8,008	$ 6,752

Consolidated Balance Sheets Data:

	As of December 31,				
	2019	2018	2017	2016	2015
			(In thousands)		
Cash, cash equivalents and short-term investments	$ 195,707	$ 274,364	$ 329,653	$ 365,728	$ 278,230
Working capital - continuing operations	$ 445,718	$ 473,907	$ 478,766	$ 551,228	$ 475,365
Working capital - discontinued operations	—	—	112,462	54,904	30,006
Working capital	$ 445,718	$ 473,907	$ 591,228	$ 606,132	$ 505,371
Total assets - continuing operations	$ 955,813	$ 1,043,376	$ 924,313	$ 1,009,946	$ 957,743
Total assets - discontinued operations	—	—	284,251	174,510	92,826
Total assets	$ 955,813	$ 1,043,376	$ 1,208,564	$ 1,184,456	$ 1,050,569
Total current liabilities - continuing operations	$ 298,391	$ 383,992	$ 293,773	$ 278,640	$ 283,328
Total current liabilities - discontinued operations	—	—	130,663	78,013	32,444
Total current liabilities	$ 298,391	$ 383,992	$ 424,436	$ 356,653	$ 315,772
Total non-current liabilities - continuing operations	$ 48,729	$ 31,832	$ 40,310	$ 23,986	$ 23,032
Total non-current liabilities - discontinued operations	—	—	13,333	6,998	3,055
Total non-current liabilities	$ 48,729	$ 31,832	$ 53,643	$ 30,984	$ 26,087
Total stockholders' equity	$ 608,693	$ 627,552	$ 730,485	$ 796,819	$ 708,710

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

You should read the following discussion of our financial condition and results of operations together with the audited consolidated financial statements and notes to the financial statements included elsewhere in this Form 10-K. This discussion contains forward-looking statements that involve risks and uncertainties. The forward-looking statements are not historical facts, but rather are based on current expectations, estimates, assumptions and projections about our industry, business and future financial results. Our actual results could differ materially from the results contemplated by these forward-looking statements due to a number of factors, including those discussed under "Risk Factors" in Part I, Item 1A above.

Business and Executive Overview

We are a global company that delivers innovative, advanced networking technologies and Internet connected products to consumers, businesses, and service providers. Our products are designed to simplify and improve people's lives. Our goal is to enable people to collaborate and connect to a world of information and entertainment. We are dedicated to delivering innovative and advanced connected solutions ranging from mobile and cloud-based services for enhanced control and security, to smart networking products, video over Ethernet for Pro AV applications, easy-to-use WiFi solutions and performance gaming routers to enhance console, online and cloud game play. Our products are built on a variety of technologies such as wireless (WiFi and 4G/5G mobile), Ethernet and powerline, with a focus on reliability and ease-of-use. Additionally, we continually invest in research and development to create new technologies and to capitalize on technological inflection points and trends, such as WiFi 6, 5G and Pro-AV. Our product lines consist of devices that create and extend wired and wireless networks as well as devices that provide a special function and attach to the network, such as smart digital canvasses. These products are available in multiple configurations to address the changing needs of our customers in each geographic region in which our products are sold.

On February 6, 2018, we announced that the Board of Directors had unanimously approved the pursuit of a separation of our smart camera business, Arlo, from NETGEAR (the "Separation") to be effected by way of an initial public offering ("IPO") and spin-off ("the Spin-Off"). On December 31, 2018, we completed the Spin-Off of Arlo Technologies, Inc. ("Arlo"), a majority owned subsidiary and reporting segment of NETGEAR at the time. Arlo's historical financial results for periods prior to the Spin-Off are reflected in our consolidated financial statements as discontinued operations for the periods presented. For further details, refer to Note 3, *Discontinued Operations,* in Notes to Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K.

We operate and report in two segments: Connected Home, and Small and Medium Business ("SMB"). We believe that this structure reflects our current operational and financial management, and provides the best structure for us to focus on growth opportunities while maintaining financial discipline. The leadership team of each segment is focused on product development efforts, both from a product marketing and engineering standpoint, to service the unique needs of their customers. The Connected Home segment is focused on consumers and consists of high-performance, dependable and easy-to-use WiFi internet networking solutions such as WiFi mesh systems, routers, 4G/5G mobile products, smart devices such as Meural digital canvasses, and services offering consumers a range of parental controls and cyber security for their home networks. The SMB segment is focused on small and medium-sized businesses and consists of business networking, wireless LAN, storage, and security solutions that bring enterprise-class functionality to small and medium-sized businesses at an affordable price. We conduct business across three geographic regions: Americas; Europe, Middle-East and Africa ("EMEA") and Asia Pacific ("APAC").

Business Overview

The markets in which our segments operate are intensely competitive and subject to rapid technological change. We believe that the principal competitive factors in the consumer and small and medium business markets for networking products include product breadth, price points, size and scope of the sales channel, brand name, timeliness of new product introductions, product availability, performance, features, functionality and reliability, ease-of-installation, maintenance and use, security, and customer service and support. To remain competitive, we believe we must continue to aggressively invest resources in developing new products and subscription services, enhancing our current products, expanding our channels and maintaining customer satisfaction worldwide. Our investments reflect our enhanced focus on cybersecurity relating to our products and systems, as the threat of cyber-attacks and exploitation of potential security vulnerabilities in our industry is on the rise and is increasingly a significant consumer concern.

We sell our products through multiple sales channels worldwide, including traditional retailers, online retailers, wholesale distributors, direct market resellers (“DMRs”), value-added resellers (“VARs”), broadband service providers and our webstore at www.netgear.com. Our retail channel includes traditional retail locations domestically and internationally, such as Best Buy, Costco, Wal-Mart, Staples, Office Depot, Target, FNAC (Europe), MediaMarkt (Europe), Darty (France), JB HiFi (Australia), Elkjop (Norway) and Sunning and Guomei (China). Online retailers include Amazon.com worldwide, Newegg.com (US), JD.com and Alibaba (China), as well as Coolblue.com (Netherlands). Our DMRs include CDW Corporation, Insight Corporation and PC Connection in domestic markets. Our main wholesale distributors include Ingram Micro, D&H, Tech Data, Exertis (U.K.) and Synnex. In addition, we also sell our products through broadband service providers, such as multiple system operators (“MSOs”), xDSL, mobile, and other broadband technology operators domestically and internationally. Some of these retailers and broadband service providers purchase directly from us, while others are fulfilled through wholesale distributors around the world. A substantial portion of our net revenue is derived from a limited number of wholesale distributors, service providers and retailers. We expect this trend will continue in the foreseeable future.

Financial Overview

During fiscal 2019, our net revenue decreased by $60.1 million, or 5.7%, while income from operations declined $12.5 million, or 32.4%, compared with the prior year. The decrease in net revenue was mainly attributable to the performance of the Connected Home segment which experienced net revenue decline of 7.7% while SMB segment net revenue remained flat. The decrease in Connected Home net revenue was primarily driven by a decline in net revenue from our home wireless, mobile and broadband modem and gateway products. Gross margin decreased from 32.3% in the prior year to 29.5%, primarily due to higher product acquisition costs, mainly as a result of the imposition of Section 301 tariffs, and higher channel promotional activities relative to revenue. The decline in gross margin was partially offset by a decrease of $34.9 million in operating expenses, primarily due to lower expenditures in general and administrative of $15.4 million, sales and marketing of $14.4 million, and research and development of $4.4 million. The decline in operating expenses was mainly due to lower personnel-related expenditures resulting from reduced headcount, and lower IT and facilities expenditures post separation with Arlo.

On a geographic basis, net revenue decreased in all three regions during fiscal 2019 compared to the prior year. The decline in net revenue in North America was precipitated by a contraction of the North American WiFi market on a year over year basis and lower sales to service providers, while International territories were affected by the strengthening of the U.S. dollar in EMEA and geopolitical challenges in the Greater China region. The decrease in the Americas net revenue was primarily driven by lower net revenue of our home wireless and mobile products, partially offset by higher net revenue of our broadband modem and gateway products. The decline in EMEA net revenue was primarily attributable to lower net revenue of our home wireless products, partially offset by increased net revenue of our mobile products. APAC net revenue decreased due to lower net revenue of our broadband modem and gateway, home wireless products and network storage products, partially offset by higher net revenue of our mobile products and switches.

Looking forward, we are targeting low single digit growth in fiscal 2020 for both Connected Home and SMB combined. We expect gross margin to improve as our U.S. bound inventory will primarily not be subject to Section 301 tariffs in fiscal 2020. We will look to continue to capitalize on the technological inflection points of WiFi 6, 5G and Pro-AV switching through new product introductions and to develop and roll out service offerings to build recurring service revenue streams. We expect service provider net revenue to average approximately $25 million for Connected Home and SMB combined per quarter in the first half of 2020.

Critical Accounting Policies and Estimates

Our consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America and pursuant to the rules and regulations of the U.S. Securities and Exchange Commission ("SEC"). The preparation of these financial statements requires management to make assumptions, judgments and estimates that can have a significant impact on the reported amounts of assets, liabilities, revenues and expenses. We base our estimates on historical experience and on various other assumptions believed to be applicable and reasonable under the circumstances. Actual results could differ significantly from these estimates. These estimates may change as new events occur, as additional information is obtained and as our operating environment changes. On a regular basis we evaluate our assumptions, judgments and estimates and make changes accordingly. We also discuss our critical accounting estimates with the Audit Committee of the Board of Directors. Note 1, *The Company and Summary of Significant Accounting Policies*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K describes the significant accounting policies used in the preparation of the consolidated financial statements. We have listed below our critical accounting policies that we believe to have the greatest potential impact on our consolidated financial statements. Historically, our assumptions, judgments and estimates relative to our critical accounting policies have not differed materially from actual results.

Revenue Recognition

On January 1, 2018, we adopted ASU 2014-09, "Revenue from Contracts with Customers" (Topic 606) ("ASC 606") and applied this guidance to those contracts which were not completed at the date of adoption using the modified retrospective method. The comparative information was not restated and continued to be reported under the accounting standards in effect for those periods (ASC 605). The adoption did not have a significant impact to the nature and timing of our revenues, results of operations, cash flows and statement of financial position.

Revenue from all sales types is recognized at transaction price, the amount we expect to be entitled to in exchange for transferring goods or providing services. Transaction price is calculated as selling price net of variable consideration which may include estimates for future returns, sales incentives and price protection related to current period product revenue. Our standard obligation to our direct customers generally provides for a full refund in the event that such product is not merchantable or is found to be damaged or defective. In determining estimates for future returns, we estimate variable consideration at the expected value amount which is based on management's analysis of historical data, channel inventory levels, current economic trends and changes in customer demand for our products. Sales incentives and price protection are determined based on a combination of the actual amounts committed and through estimating future expenditure based upon historical customary business practice. We continue to assess variable consideration estimates such that it is probable that a significant reversal of revenue will not occur.

We enter into contracts to sell our products and services, and while some of our sales agreements contain standard terms and conditions, there are agreements that contain non-standard terms and conditions and include promises to transfer multiple goods or services. As a result, significant interpretation and judgment is sometimes required to determine the appropriate accounting for these transactions including: (1) whether performance obligations are considered distinct and required to be accounted for separately or combined, including allocation of transaction price; (2) developing an estimate of the stand-alone selling price, or SSP, of each distinct performance obligation; (3) combining contracts that may impact the allocation of the transaction price between product and services; and (4) estimating and accounting for variable consideration, including rights of return, rebates, price protection, expected penalties or other price concessions as a reduction of the transaction price.

Judgment is required to determine the SSP for each distinct performance obligation. We consider multiple factors, including, but not limited to, historical discounting trends for products and services, pricing practices in different geographies and through different sales channels, gross margin objectives, internal costs, competitor pricing strategies, and industry technology lifecycles.

We record revenues at the transaction price, net of allowances for customer right of returns, program and sales incentive offerings, price protection, promotions and other credits, which are accounted for as variable consideration. Variable consideration includes future channel warranty returns typically incurred due to buyer's remorse, stock rotations, price protection and sales channel incentive programs. Future warranty returns are recorded as a reduction of revenue in the amount of the expected credit or refund to be provided. At the time we record the reduction to revenue related to warranty returns, we include within cost of revenue a write-down to reduce the carrying value of such products to net realizable value. We use estimates based on historical experience, channel inventory levels, current economic trends and changes in customer demand for our products to determine the expected value of future warranty returns. In addition to warranty-related returns, certain distributors and retailers generally have the right to return product for stock rotation purposes. We accrue for sales incentives as a marketing expense if an identifiable benefit can be identified and fair value estimated; otherwise, these incentives are recorded as a reduction of revenues. Sales incentives and price protection are determined using a combination of the actual amounts committed and through estimates of future expenditure factoring historical customary business practices. Our estimated variable considerations can vary from actual results and we may have to record additional revenue reductions, which could materially impact our financial position and results of operations.

Allowances for Warranty Obligations

At the time we record the reduction to revenue related to warranty returns, we include within cost of revenue a write-down to reduce the carrying value of such products to net realizable value. The write-down reflects our standard warranty obligation to end-users provided for replacement of a defective product for one or more years. Factors that affect the warranty obligation include product failure rates, material usage, and service delivery costs incurred in correcting product failures. The estimated cost associated with fulfilling the warranty obligation to end-users is recorded in cost of revenue. Because our products are manufactured by third-party manufacturers, in certain cases we have recourse to the third-party manufacturer for replacement or credit for the defective products. We give consideration to amounts recoverable from our third-party manufacturers in determining our warranty liability. Our estimated allowances for product warranties can vary from actual results and we may have to record additional charges to cost of revenue, which could materially impact our financial position and results of operations.

Inventory Valuation

We value our inventory at the lower of cost and net realizable value, cost being determined using the first-in, first-out method.

Provisions for Excess and Obsolete Inventory

On a quarterly basis we assess the value of our inventory and write down its value for estimated excess and obsolete inventory based upon assumptions about the future demand by reviewing inventory quantities on hand and on order under non-cancelable purchase commitments in comparison to our estimated forecast of product demand to determine what inventory, if any, is not saleable at or above cost. Our analysis is based on the demand forecast which takes into account market conditions, product development plans, product life expectancy and other factors. Based on this analysis, we write down the affected inventory value for estimated excess and obsolescence charges. At the point of loss recognition, a new, lower cost basis for that inventory is established, and subsequent changes in facts and circumstances do not result in the restoration or increase in that newly established cost basis. As demonstrated during prior years, demand for our products can fluctuate significantly. If actual demand is lower than our forecasted demand and we fail to reduce our manufacturing accordingly, we could be required to write down the value of additional inventory, which would have a negative effect on our gross profit.

Goodwill

Goodwill represents the purchase price over estimated fair value of net assets of businesses acquired in a business combination. Goodwill acquired in a business combination is not amortized, but instead tested for impairment at least annually on the first day of the fourth quarter. Should certain events or indicators of impairment occur between annual impairment tests, we will perform the impairment test as those events or indicators occur. Examples of such events or circumstances include the following: a significant decline in our expected future cash flows, a sustained, significant decline in our stock price and market capitalization, a significant adverse change in the business climate, slower growth rates, and a more-likely-than-not expectation of selling or disposing of all, or a portion, of a reporting unit.

Goodwill is tested for impairment at the reporting unit level by first performing a qualitative assessment to determine whether it is more likely than not (that is, a likelihood of more than 50%) that the fair value of the reporting unit is less than its carrying value. The qualitative assessment considers the following factors: macroeconomic conditions, industry and market considerations, cost factors, overall company financial performance, events affecting the reporting units, and changes in our share price. If the reporting unit does not pass the qualitative assessment, we estimate our fair value and compare the fair value with the carrying value of the reporting unit, including goodwill. If the fair value is greater than the carrying value of our reporting unit, no impairment results. If the fair value is less than the carrying value, an impairment loss is recognized for the amount that the carrying amount of a reporting unit, including goodwill, exceeds its fair value, limited to the total amount of goodwill allocated to that reporting unit. The impairment charge would be recorded to earnings in the consolidated statements of operations.

We completed our annual impairment test of goodwill as of the first day of the fourth fiscal quarter of 2019, or September 30, 2019. We identified the reporting units for the purpose of goodwill impairment testing as Connected Home and SMB and performed a qualitative test for goodwill impairment of the two reporting units as of September 30, 2019. Based upon the results of the qualitative testing, the respective fair values of the two reporting units were in excess of the reporting units' carrying values. We believe that it is more-likely-than-not that the fair value of these reporting units is greater than their respective carrying values and therefore performing the next step of impairment test for these reporting units was unnecessary. No goodwill impairment was recognized for our reporting units in the years ended December 31, 2019, 2018 or 2017.

For Connected Home, and SMB reporting units, we do not believe it is likely that there will be a material change in the estimates or assumptions we use to test for impairment losses on goodwill. However, if the actual results are not consistent with our estimates or assumptions, we may be exposed to a future impairment charge that could be material.

Long-Lived Assets Excluding Goodwill

Our long-lived assets primarily include goodwill, purchased intangibles with finite lives, operating lease right-of-use ("ROU") assets, and property and equipment. Purchased intangibles with finite lives are amortized using the straight-line method over the estimated economic lives of the assets, which range from three to ten years. ROU assets represent the Company's right to use an underlying asset for the lease term, which range from one to ten years, and amortized over the respective term. Property and equipment are stated at historical cost, less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, which range from 2 to 5 years. Long lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Examples of such events or circumstances include the following: a significant decrease in the market price of the asset, a significant decline in our expected future cash flows, significant changes or planned changes in our use of the assets, a sustained, significant decline in our stock price and market capitalization and a significant adverse change in the business climate. Determination of recoverability is based on an estimate of undiscounted future cash flows resulting from the use of the asset and its eventual disposition. If the carrying amount of the asset exceeds its estimated undiscounted future net cash flows, an impairment charge is recognized in the amount by which the carrying amount of the asset exceeds the fair value of the asset. The carrying value of the asset is reviewed on a regular basis for the existence of facts, both internal and external, that may suggest impairment.

During the year ended December 31, 2019, there were no events or changes in circumstances that indicated the carrying amount of our long-lived assets may not be recoverable from their undiscounted cash flows. Consequently, we did not perform an impairment test. We reviewed the depreciation and amortization policies for the long-lived asset groups and ensured the remaining useful lives are appropriate. We did not record any impairments to our long-lived assets during the years ended December 31, 2019, 2018 and 2017.

We will continue to evaluate the carrying value of our long-lived assets and if we determine in the future that there is a potential impairment, we may be required to record additional charges to earnings which could affect our financial results.

Income Taxes

We account for income taxes under an asset and liability approach. Under this method, income tax expense is recognized for the amount of taxes payable or refundable for the current year. In addition, deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences resulting from different treatments for tax versus accounting of certain items, such as accruals and allowances not currently deductible for tax purposes. These differences result in deferred tax assets and liabilities, which are included within the consolidated balance sheets. We must then assess the likelihood that our deferred tax assets will be recovered from future taxable income and to the extent we believe that recovery is not more likely than not, we must establish a valuation allowance. Our assessment considers the recognition of deferred tax assets on a jurisdictional basis. Accordingly, in assessing our future taxable income on a jurisdictional basis, we consider the effect of its transfer pricing policies on that income. We have recorded a valuation allowance against California deferred tax assets and certain federal deferred tax assets since the recovery of the assets is uncertain. We believe that all of our other deferred tax assets are recoverable; however, if there were a change in our ability to recover our deferred tax assets, we would be required to take a charge in the period in which we determined that recovery was not more likely than not.

Uncertain tax provisions are recognized under guidance that provides that a company should use a more-likely-than-not recognition threshold based on the technical merits of the income tax position taken. Income tax positions that meet the more-likely-than-not recognition threshold should be measured in order to determine the tax benefit to be recognized in the financial statements. We include interest expense and penalties related to uncertain tax positions as additional tax expense.

The Company made an accounting policy election related to accounting for the tax effects of Global Intangible Low-Taxed Income ("GILTI") that was implemented as part of the Tax Cuts and Jobs Act of 2017 (the "Tax Act"), enacted on December 22, 2017. With regard to GILTI, the Company accounts for the tax effects as a period cost, if and when incurred.

Results of Operations

The following table sets forth, for the periods presented, the consolidated statements of continuing operations data, which is derived from the accompanying consolidated financial statements:

	Year Ended December 31,					
	2019		2018		2017	
	(In thousands, except percentage data)					
Net revenue	$ 998,763	100.0%	$ 1,058,816	100.0%	$ 1,039,169	100.0%
Cost of revenue	704,535	70.5%	717,118	67.7%	731,453	70.4%
Gross profit	294,228	29.5%	341,698	32.3%	307,716	29.6%
Operating expenses:						
Research and development	77,982	7.8%	82,416	7.8%	71,893	6.9%
Sales and marketing	138,150	14.0%	152,569	14.4%	138,679	13.4%
General and administrative	49,432	4.9%	64,857	6.1%	54,346	5.2%
Other operating expenses, net	2,476	0.2%	3,142	0.3%	245	0.0%
Total operating expenses	268,040	26.9%	302,984	28.6%	265,163	25.5%
Income from operations	26,188	2.6%	38,714	3.7%	42,553	4.1%
Interest income, net	2,539	0.3%	3,980	0.4%	2,114	0.2%
Other income (expense), net	844	0.1%	510	0.0%	1,557	0.1%
Income before income taxes	29,571	3.0%	43,204	4.1%	46,224	4.4%
Provision for income taxes	3,780	0.4%	25,878	2.5%	57,357	5.5%
Net income (loss) from continuing operations	$ 25,791	2.6%	$ 17,326	1.6%	$ (11,133)	(1.1%)

Net Revenue by Geographic Region

Our net revenue consists of gross product shipments and service revenue, less allowances for estimated sales returns, price protection, end-user customer rebates and other channel sales incentives deemed to be a reduction of net revenue per the authoritative guidance for revenue recognition, and net changes in deferred revenue.

We conduct business across three geographic regions: Americas, EMEA and APAC. For reporting purposes, revenue is generally attributed to each geographic region based upon the location of the customer.

	Year Ended December 31,				
	2019	% Change	2018	% Change	2017
	(In thousands, except percentage data)				
Americas	$ 653,006	(6.8)%	$ 700,693	5.4%	$ 665,089
Percentage of net revenue	*65.4%*		*66.2%*		*64.0%*
EMEA	$ 200,099	(3.6)%	$ 207,599	5.3%	$ 197,074
Percentage of net revenue	*20.0%*		*19.6%*		*19.0%*
APAC	$ 145,658	(3.2)%	$ 150,524	(15.0)%	$ 177,006
Percentage of net revenue	*14.6%*		*14.2%*		*17.0%*
Total net revenue	$ 998,763	(5.7)%	$ 1,058,816	1.9%	$ 1,039,169

2019 vs 2018

Net revenue in Americas decreased for the year ended December 31, 2019 compared to the prior year. The decline was precipitated by a contraction of the North American WiFi market on a year over year basis and lower sales to service providers. The lower net revenue was primarily attributable to lower net revenue of our home wireless and mobile products, partially offset by higher net revenue of our broadband modem and gateway products. The contraction in the North American WiFi market in fiscal 2019 impacted demand for home wireless products to non-service provider customers. The mobile product decrease was mainly attributable to service provider customers. Net revenue from service providers declined by $28.8 million across all products in fiscal 2019, primarily driven by the culmination of a supply agreement with one of our North American partners. Additionally, net revenue was negatively impacted by increased channel promotional activities and sales returns deemed to be a reduction of revenue compared to the prior year. On a segment basis, net revenue from Connected Home and SMB fell by 8.1% and 1.0% compared to the prior year, respectively.

Net revenue in EMEA decreased for the year ended December 31, 2019 compared to the prior year. Net revenue in EMEA was negatively impacted by $8.3 million due to the strengthening of the U.S. dollar compared to the prior year. The decrease in EMEA was primarily attributable to lower net revenue of our home wireless products, partially offset by increased net revenue of our mobile products. On a segment basis, net revenue from Connected Home and SMB fell by 6.5% and 1.0% compared to the prior year, respectively.

APAC net revenue decreased for the year ended December 31, 2019 compared to the prior year. Net revenue in the Greater China region declined in the second half of 2019 impacted by geopolitical challenges. The fall in APAC was primarily attributable to lower net revenue of our broadband modem and gateway and home wireless products, partially offset by higher net revenue of mobile and switches. On a segment basis, net revenue from Connected Home and SMB fell by 7.0% and increased by 3.6% compared to the prior year, respectively.

2018 vs 2017

The increase in Americas net revenue for the year ended December 31, 2018 compared to the prior year was due to higher net revenue of home wireless, broadband modem and gateway products, and switches. The increase in net revenue was driven by sales to non-service provider customers, with sales to service provider customers falling by $6.4 million compared to the prior year. Net revenue to non-service provider customers increased mainly due to home wireless products which experienced strong performance in Wi-Fi systems. Net revenue was negatively impacted by channel promotion activities deemed to be a reduction of revenue increasing disproportionately compared to the prior year.

EMEA net revenue increased for the year ended December 31, 2018, compared to the prior year, driven by increased net revenue of home wireless products and switches, partially offset by slight declines in net revenue of our broadband modem and gateway products. Connected Home and SMB net revenue increased by 6.9% and 8.4%, respectively, mainly due to growth in the aforementioned product categories. The growth in net revenue was driven by non-service provider customers with net revenue from service providers falling slightly compared to the prior year.

APAC net revenue decreased for the year ended December 31, 2018, compared to the prior year. The decrease was primarily attributable to lower net revenue of our mobile, broadband modem and gateway, and home wireless products, partially offset by higher net revenue of switches. The fall in net revenue from mobile, broadband modem and gateway products was due to lower net revenue from service provider customers which fell approximately $23.4 million compared to the prior year.

Cost of Revenue and Gross Margin

Cost of revenue consists primarily of the following: the cost of finished products from our third party manufacturers; overhead costs, including purchasing, product planning, inventory control, warehousing and distribution logistics; third-party software licensing fees; inbound freight; import duties/tariffs; warranty costs associated with returned goods; write-downs for excess and obsolete inventory; amortization of certain acquired intangibles and capitalized software development cost; and costs attributable to the provision of service offerings.

We outsource our manufacturing, warehousing and distribution logistics. We believe this outsourcing strategy allows us to better manage our product costs and gross margin. Our gross margin can be affected by a number of factors, including fluctuation in foreign exchange rates, sales returns, changes in average selling prices, end-user customer rebates and other channel sales incentives, changes in our cost of goods sold due to fluctuations in prices paid for components, net of vendor rebates, warranty and overhead costs, inbound freight and duty/tariffs, conversion costs, charges for excess or obsolete inventory and amortization of acquired intangibles. The following table presents costs of revenue and gross margin, for the periods indicated:

	Year Ended December 31,				
	2019	% Change	2018	% Change	2017
	(In thousands, except percentage data)				
Cost of revenue	$ 704,535	(1.8)%	$ 717,118	(2.0)%	$ 731,453
Gross margin percentage	*29.5%*		*32.3%*		*29.6%*

2019 vs 2018

Cost of revenue decreased for the year ended December 31, 2019, compared to the prior year, primarily due to net revenue declining.

Gross margin decreased for the year ended December 31, 2019 compared to the prior year. Gross margin was negatively impacted by the imposition of Section 301 tariffs originally announced in late 2018 and cost inefficiencies experienced in our new manufacturing locations outside of China, an increase in channel promotional activities relative to revenue as well as foreign exchange headwinds due to the strengthening of the U.S. dollar.

2018 vs 2017

Cost of revenue decreased for the year ended December 31, 2018 primarily due to improved product margin performance, lower proportionate provisions for warranty expense, and lower air freight costs compared to the prior year.

Gross margin increased for the year ended December 31, 2018 compared to the prior year primarily due to improved product margin performance, lower proportionate provisions for sales returns and warranty expense, favorable foreign exchange rate movements and lower air freight costs compared to the prior year.

For fiscal 2020, we expect gross margins to improve from fiscal 2019 primarily as our U.S. bound inventory will primarily not be subject to Section 301 tariffs in fiscal 2020. Forecasting gross margin percentages is difficult, and there are a number of risks related to our ability to maintain or improve our current gross margin levels. Our cost of revenue as a percentage of net revenue can vary significantly based upon factors such as: uncertainties surrounding revenue levels, including future pricing and/or potential discounts as a result of the economy or in response to the strengthening of the U.S. dollar in our international markets, and related production level variances; import customs duties and imposed tariffs; competition; changes in technology; changes in product mix; variability of stock-based compensation costs; royalties to third parties; fluctuations in freight and repair costs; manufacturing and purchase price variances; changes in prices on commodity components; warranty costs; and the timing of sales, particularly to service provider customers. We expect that revenue derived from paid subscription service plans will increase in the future, which may have a positive impact on our gross margin. From time to time, however, we may experience fluctuations in our gross margin as a result of the factors discussed above.

Operating Expenses

Research and Development

Research and development expense consists primarily of personnel expenses, payments to suppliers for design services, safety and regulatory testing, product certification expenditures to qualify our products for sale into specific markets, prototypes, IT and facility allocations, and other consulting fees. Research and development expenses are recognized as they are incurred. Our research and development organization is focused on enhancing our ability to introduce innovative and easy-to-use products and services. The following table presents research and development expense, for the periods indicated:

	Year Ended December 31,				
	2019	**% Change**	**2018**	**% Change**	**2017**
	(In thousands, except percentage data)				
Research and development	$ 77,982	(5.4)%	$ 82,416	14.6%	$ 71,893

2019 vs 2018

Research and development expense decreased for the year ended December 31, 2019 compared to the prior year, due to a decline in IT and facility allocation of $6.2 million, partially offset by an increase of $1.7 million in engineering projects and outside professional services. The decline in IT and facility allocations primarily resulted from reduced expenditures post separation with Arlo. The increased expenditures on engineering projects and outside professional services were due to continuous investment in strategic focus areas as we seek to expand our product portfolio and service offerings. Research and development headcount was 273 as of December 31, 2019 as compared with 274 as of December 31, 2018.

2018 vs 2017

Research and development expense increased for the year ended December 31, 2018 compared to the prior year, due to increased spending of $7.9 million in personnel-related expenditures, and $4.4 million in IT and facility allocations, partially offset by a reduction of $1.6 million in engineering projects and outside professional services. Research and development headcount increased from 264 as of December 31, 2017 to 274 as of December 31, 2018.

We believe that innovation and technological leadership is critical to our future success, and we are committed to continuing a significant level of research and development to develop new technologies, products and services to combat competitive pressures. We continue to invest in research and development to grow our cloud platform capabilities, and connected home products portfolio including services and mobile applications, expand our Pro-AV, web-managed, app-managed, 10Gig and PoE switch products, and develop innovative WiFi and 4G/5G mobile Advanced and 5G coverage solutions. For fiscal 2020, we expect research and development expenses to grow in absolute dollars while we allocate resources to help accelerate growth in key strategic areas such as the continued development of our WiFi 6 product portfolio as well as service offerings. Research and development expenses will fluctuate depending on the timing and number of development activities in any given quarter and could vary significantly as a percentage of net revenue, depending on actual revenues achieved in any given quarter.

Sales and Marketing

Sales and marketing expense consists primarily of advertising, trade shows, corporate communications and other marketing expenses, product marketing expenses, outbound freight costs, amortization of certain intangibles, personnel expenses for sales and marketing staff, technical support expenses, and IT and facility allocations. The following table presents sales and marketing expense, for the periods indicated:

	Year Ended December 31,				
	2019	**% Change**	**2018**	**% Change**	**2017**
	(In thousands, except percentage data)				
Sales and marketing	$ 138,150	(9.5)%	$ 152,569	10.0%	$ 138,679

2019 vs 2018

Sales and marketing expense decreased for the year ended December 31, 2019 compared to the prior year, primarily driven by decreases in personnel-related expenditures of $8.9 million, marketing expenditures of $3.1 million and IT and facility allocation expenditures of $1.6 million. Marketing expenditure decreased primarily due to fewer brand marketing campaigns. Sales and marketing headcount fell to 283 as of December 31, 2019 from 312 as of December 31, 2018, primarily associated with restructuring activities during fiscal 2019 as we reduced headcount in China and a number of other countries in APAC and EMEA. In addition, we closed offices in some of the affected jurisdictions.

2018 vs 2017

Sales and marketing expense increased for the year ended December 31, 2018 compared to the prior year, primarily attributable to an increase in personnel-related expenditures of $9.4 million and IT and facility allocation expenditures of $2.1 million. Sales and marketing headcount as of December 31, 2018 was 312, down from 323 as of December 31, 2017. The fall in headcount was primarily associated with restructuring activities initiated in the fourth quarter of 2018.

We expect our sales and marketing expense to be in line with fiscal 2019 in absolute dollars for fiscal year 2020. Expenses may fluctuate depending on revenue levels achieved as certain expenses, such as commissions, are determined based upon the revenues achieved. Forecasting sales and marketing expenses as a percentage of net revenue is highly dependent on expected revenue levels and could vary significantly depending on actual revenues achieved in any given quarter. Marketing expenses will also fluctuate depending upon the timing, extent and nature of marketing programs. Marketing expenditure committed with a customer is generally recorded as a reduction of net revenue per authoritative guidance.

General and Administrative

General and administrative expense consists of salaries and related expenses for executives, finance and accounting, human resources, information technology, professional fees, including legal costs associated with defending claims against us, allowance for doubtful accounts, IT and facility allocations, and other general corporate expenses. The following table presents general and administrative expense, for the periods indicated:

	Year Ended December 31,				
	2019	**% Change**	**2018**	**% Change**	**2017**
	(In thousands, except percentage data)				
General and administrative	$ 49,432	(23.8)%	$ 64,857	19.3%	$ 54,346

2019 vs 2018

The decrease in general and administrative expense decreased for the year ended December 31, 2019 compared to the prior year was primarily attributable to declines in personnel-related expenditures of $6.3 million, legal and professional services of $3.3 million, other general corporate expenses of $3.4 million and IT and facilities of $1.7 million. The decrease in personnel-related expenditures was mainly due to lower average headcount and lower variable compensation during fiscal 2019 as compared with the prior year. The reduction in other general corporate expenses primarily relates to value-added tax previously incurred and subsequently refunded as well as changes to estimates for value added tax payable. General and administrative headcount was 144 as of December 31, 2019 as compared with 143 as of December 31, 2018.

2018 vs 2017

General and administrative expense increased for the year ended December 31, 2018 compared to the prior year, mainly due to higher personnel-related expenditures of $6.7 million and legal and professional services of $2.8 million. The increase in legal and professional services were primarily due to increased spending related to certain litigation matters and increased patent prosecution activity. General and administrative headcount decreased from 177 employees as of December 31, 2017 to 143 employees as of December 31, 2018. The fall in headcount was primarily attributable to the Separation of the Arlo business as a number of NETGEAR employees were transferred to Arlo Technologies and have not subsequently been replaced.

We expect our general and administrative expenses as a percentage of net revenue for fiscal 2020 to increase slightly compared with the same periods of fiscal 2019. General and administrative expenses could fluctuate depending on a number of factors, including the level and timing of expenditures associated with litigation defense costs in connection with the litigation matters described in Note 10, *Commitments and Contingencies,* in Notes to Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K. Future general and administrative expense increases or decreases in absolute dollars are difficult to predict due to the lack of visibility of certain costs, including legal costs associated with defending claims against us, as well as legal costs associated with asserting and enforcing our intellectual property portfolio and other factors.

Other operating expenses, net

Other operating expenses, net consists of separation expense, restructuring and other charges, litigation reserves, net and change in the fair value of contingent consideration.

	Year Ended December 31,				
	2019	% Change	2018	% Change	2017
	(In thousands, except percentage data)				
Other operating expenses, net	$ 2,476	(21.2)%	$ 3,142	**	$ 245

** Percentage change not meaningful.

Other operating expenses, net decreased for the year ended December 31, 2019 compared to the prior year, primarily due to a decrease of $0.7 million in separation expense associated with the Separation of the Arlo business. Other operating expenses, net increased for the year ended December 31, 2018 compared to the prior year, mainly due to higher restructuring and other changes of $2.1 million and separation expense of $0.9 million associated with the Separation of the Arlo business. Restructuring and other charges for fiscal 2019 and 2018 were primarily recognized for severance, and other costs in relation to certain office closures and downsizes.

Interest Income, Net and Other Income (Expense), Net

Interest income, net represents amounts earned on our cash, cash equivalents and short-term investments. Other income (expense), net primarily represents gains and losses on transactions denominated in foreign currencies, gains and losses on investments, and other non-operating income and expenses. The following table presents interest income, net and other income (expense), net for the periods indicated:

	Year Ended December 31,				
	2019	% Change	2018	% Change	2017
	(In thousands, except percentage data)				
Interest income, net	$ 2,539	(36.2)%	$ 3,980	88.3%	$ 2,114
Other income (expense), net	844	65.5%	510	(67.2)%	1,557
Total	$ 3,383	(24.7)%	$ 4,490	22.3%	$ 3,671

Interest income, net decreased in the fiscal 2019 as compared to the prior year, mainly due to lower cash and cash equivalents and short term invested balances. Interest income, net in fiscal 2018 increased compared to 2017, due to higher yields on short term investment. The increase and decrease in other income (expense), net in fiscal 2019 and fiscal 2018 compared to the prior year, respectively, was primarily due to foreign currency movements net of the effect of foreign currency forward contracts. In addition, an impairment charge of $1.4 million pertaining to a long-term investment incurred in 2018 was offset by favorable currency movements. Our foreign currency hedging program effectively reduced volatility associated with hedged currency exchange rate movements in fiscal 2019. For a detailed discussion of our hedging program and related foreign currency contracts, refer to Note 6, *Derivative Financial Instruments*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K.

Provision for Income Taxes

	Year Ended December 31,				
	2019	% Change	2018	% Change	2017
	(In thousands, except percentage data)				
Provision (benefit) for income taxes	$ 3,780	(85.4)%	$ 25,878	(54.9)%	$ 57,357
Effective tax rate	*12.8%*		*59.9%*		*124.1%*

2019 vs 2018

The decrease in tax expense for the year ended December 31, 2019, compared to the year ended December 31, 2018, resulted primarily from a decline in pre-tax earnings coupled with favorable benefits from the settlement of international tax audits and changes in estimate in tax expense recorded upon finalizing U.S. tax returns. These benefits were partially offset by the impact of stock based compensation related to shortfalls that occurred during the year as well as the impact of limitations on current and future deductions for certain executive officers under IRC section 162(m).

During fiscal year 2019, the Company evaluated the impact of the Global Intangible Low-Taxed Income “GILTI”, Foreign Derived Intangible Income “FDII” and Base Erosion and Anti-abuse Tax “BEAT” provisions. These provisions resulted in a net addition to tax of $1.7 million. This amount is comprised of BEAT of $2.1 million offset by the impact of GILTI and FDII of $(0.4) million. For fiscal year 2018, the company estimated that these provisions would result on a net benefit of $(0.3) million. Included in the 2019 tax expense is a benefit of $(0.7) million related to the net impact of these provisions as reported on the final U.S. tax return for the year ended December 31, 2018.

2018 vs 2017

The decrease in the effective tax rate and the decrease in tax expense for the year ended December 31, 2018, compared to the year ended December 31, 2017, resulted primarily from the combination of a decline in pre-tax earnings and the decrease in the US federal tax rate from 35% to 21%, and the impact of other provisions of the tax Cuts and Jobs Act. Additionally, tax expense for the year ended December 31, 2017 included the effect of the implementation of certain aspects of the Tax Act including recording provisional expense for the transition tax of $21.7 million for US federal and state income tax purposes. Additionally, the Company recorded tax expense of $26.6 million resulting from the remeasurement of net deferred tax assets resulting from the reduction in US federal tax rate. These items resulted in higher tax expense during fiscal 2017. During fiscal year 2018, the Company completed the computation of the transition tax as part of the 2017 income tax returns filing and reduced the federal and state provisional amount by $6.7 million. The Company has also evaluated the impact of the Global Intangible Low-Taxed Income “GILTI”, Foreign Derived Intangible Income “FDII” and Base Erosion and Anti-abuse Tax “BEAT” provisions and as a result recorded a detriment of $0.4 million and a benefit of $(0.7) million in relation to GILTI and FDII respectively, resulting on a net benefit of $(0.3) million. During the year ended December 31, 2018, the Company recorded tax expense of $23.0 million in continuing operations related to the write-off of deferred tax assets for which the underlying assets and liabilities related to Arlo.

We are subject to income taxes in the U.S. and numerous foreign jurisdictions. Our future foreign tax rate could be affected by changes in the composition in earnings in countries with tax rates differing from the U.S. federal rate. We are under examination in various U.S. and foreign jurisdictions.

Segment Information

A description of our products and services, as well as segment financial data, for each segment and a reconciliation of segment contribution income to income before income taxes can be found in Note 13, *Segment Information*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K.

Connected Home

	Year Ended December 31,				
	2019	**% Change**	**2018**	**% Change**	**2017**
	(in thousands, except percentage data)				
Net revenue	$ 711,391	(7.7)%	$ 771,060	0.4%	$ 768,261
Percentage of net revenue	*71.2%*		*72.8%*		*73.9%*
Contribution income	$ 67,775	(29.7)%	$ 96,340	14.9%	$ 83,870
Contribution margin	*9.5%*		*12.5%*		*10.9%*

2019 vs 2018

Net revenue in Connected Home segment decreased for the year ended December 31, 2019 compared to the prior year. Net revenue from service provider customers fell $27.8 million compared with the prior year. In addition, the North American home WiFi market contracted in fiscal 2019 affecting net revenue from non-service provider customers. The lower revenue was primarily due to declined net revenue of our home wireless, mobile and broadband modem and gateway products. Within home wireless, we experienced declines in net revenue from AC router products, WiFi mesh systems and extenders, partially offset by net revenue generated from the introduction of WiFi 6 routers. On a geographic basis, we experience net revenue declines across all three regions.

Contribution income decreased for the year ended December 31, 2019 compared to the prior year, primarily due to lower net revenue and lower gross margin attainment. Contribution margin decreased for the year ended December 31, 2019 compare to the prior year primarily due to higher product acquisition costs resulting from the burden of Section 301 tariffs and inefficiencies associated with commencing manufacturing in new locations, increased channel promotion activities and foreign exchange headwinds due to the strengthening of the U.S. dollar.

2018 vs 2017

Connected Home segment net revenue increased for the year ended December 31, 2018 compared to the prior year. The increase in Connected Home net revenue was primarily due to home wireless and broadband modem and modem gateway products, partially offset by decreased net revenue from mobile products. The growth in home wireless was experienced across both service provider and non-service provider channels, while the increase in broadband and gateway related solely to non-service provider customers. In total, net revenue from service provider customers fell $33.5 million compared to the prior year period. Geographically, net revenue increased in Americas and EMEA, but decreased in APAC.

Contribution income increased for the year ended December 31, 2018 compared to the prior year, primarily due to higher net revenue and gross margin attainment, mainly due to favorable product mix and lower warranty expense, partially offset by higher operating expenses as a proportion of net revenue.

SMB

	Year Ended December 31,				
	2019	**% Change**	**2018**	**% Change**	**2017**
	(in thousands, except percentage data)				
Net revenue	$ 287,372	(0.1)%	$ 287,756	6.2%	$ 270,908
Percentage of net revenue	*28.8%*		*27.2%*		*26.1%*
Contribution income	$ 67,282	(4.1)%	$ 70,142	9.8%	$ 63,865
Contribution margin	*23.4%*		*24.4%*		*23.6%*

2019 vs 2018

SMB segment net revenue was flat for the year ended December 31, 2019 compared to the prior year, primarily due to a decline in net revenue of our network storage products, substantially offset by growth in net revenue of our switch products. Geographically, net revenue grew in APAC, but declined in Americas and EMEA.

Contribution income decreased for the year ended December 31, 2019 compared to the prior year, primarily as a result of lower gross margin attainment, partially offset by lower operating expenses as a proportion of net revenue. Contribution margin decreased for the year ended December 31, 2019 compared to the prior year, primarily lower gross margin attainment mainly resulting from foreign exchange headwinds due to the strengthening of the U.S. dollar as well as higher provisions for sales returns.

2018 vs 2017

SMB segment net revenue increased for the year ended December 31, 2018 compared to the prior year, primarily due to growth in switches, partially offset by the decrease in network storage. SMB experienced growth in net revenue across all regions. SMB net revenue was further benefited by lower provisions for sales returns deemed to be a reduction of net revenue.

Contribution income increased for the year ended December 31, 2018 compared to the prior year, primarily due to increasing net revenue and improved gross margin performance not being met with proportionate increases in operating expense compared to the prior period.

Liquidity and Capital Resources

Our principal sources of liquidity are cash, cash equivalents, short-term investments, and cash generated from operations. As of December 31, 2019, we had cash, cash equivalents and short-term investments totaling $195.7 million. Our cash and cash equivalents balance decreased from $201.0 million as of December 31, 2018 to $190.2 million as of December 31, 2019. Our short-term investments decreased from $73.3 million as of December 31, 2018 to $5.5 million as of December 31, 2019. The decrease of $78.7 million in cash, cash equivalents, short-term investments as of December 31, 2019 from December 31, 2018 was mainly attributable to repurchases of common stock of $75.9 million in 2019. Cash from net income of $25.8 million was largely offset by uses in working capital mainly relating to higher payments to trade suppliers.

As of December 31, 2019, approximately 63% of our cash and cash equivalents and short-term investments were outside of the U.S. The cash and cash equivalents and short-term investments balances outside of the U.S. are subject to fluctuation based on the settlement of intercompany balances. As we repatriate these funds in accordance with our designation of funds not permanently reinvested outside of the US, we will be required to pay income taxes in certain U.S. states and applicable foreign withholding taxes during the period when such repatriation occurs. We have recorded deferred taxes for the tax effect of repatriating the funds to the U.S.

The following table presents our cash flows for the periods presented:

	Year Ended December 31,		
	2019	2018	2017
		(In thousands)	
Cash provided by (used in):			
Continuing operating activities	$ 13,524	$ (15,059)	$ 100,347
Continuing investing activities	49,459	28,174	(15,547)
Continuing financing activities	(73,822)	(25,670)	(105,304)
Net increase (decrease) in cash and cash equivalents from discontinued operations	—	10,732	(17,094)
Net cash decrease	$ (10,839)	$ (1,823)	$ (37,598)

Continuing operating activities

Net cash provided by continuing operating activities was $13.5 million for fiscal 2019 as compared to net cash used in continuing operating activities of $15.1 million in fiscal 2018. The increase in cash inflows from continuing operating activities was primarily due to favorable working capital movements and higher net income. The lower net cash outflow from working capital was mainly driven by higher account receivables collection from customers and lower inventory holding, partially offset by higher payments to trade suppliers. Net cash provided by continuing operating activities decreased by $115.4 million for fiscal 2018 as compared to fiscal 2017, due primarily to unfavorable working capital movements, partially offset by higher net income.

Our days sales outstanding ("DSO") increased to 102 days as of December 31, 2019 as compared to 97 days and 85 days as of December 31, 2018 and 2017, respectively. The increases in DSO for 2019 compared with 2018 and for 2018 compared with 2018 were primarily attributable to the timing of shipments as well as mix of receivable balances with longer dated payment terms being higher proportionately to the prior year. In addition, the DSO increase in 2018 versus 2017 was adversely affected by the adoption of ASC 606 which added approximately 2 days mainly as a result of changes to the balance sheet presentation of certain reserve balances previously shown net within accounts receivable which are now presented as liabilities. Our accounts payable amounted to $80.5 million, $139.7 million and $91.2 million as of December 31, 2019, 2018 and 2017, respectively. Inventory amounted to $235.5 million, $243.9 million and $162.9 million as of December 31, 2019, 2018 and 2017, respectively. We experienced increases in accounts payable and inventory at the end of 2018 as a response to imposition of Section 301 tariffs which began to normalize by the end of 2019. Ending inventory turns were 3.1, 3.3 and 4.9 in the three months ended December 31, 2019, 2018 and 2017, respectively.

Continuing investing activities

Net cash provided by continuing investing activities increased by $21.3 million for fiscal 2019 as compared to fiscal 2018, primarily due to higher net proceeds from maturities of short-term investments, partially offset by increased long-term investments. In addition, we had a cash outflow of $14.4 million in connection with the acquisition of Meural in 2018 with no corresponding outflow in 2019. Net cash provided by continuing investing activities was $28.2 million for fiscal 2018 as compared to $15.5 million of net cash used in fiscal 2017, primarily due to lower purchase of short-term investments along with higher proceeds from maturities of short-term investments, and a decrease in long-term investments, partially offset by payments made in connection with the business acquisition of Meural which occurred in 2018 and higher capital expenditures.

Continuing financing activities

Net cash used in continuing financing activities increased by $48.2 million in fiscal 2019 as compared to fiscal 2018, primarily due to increased repurchases of common stock. Net cash used in continuing financing activities decreased in fiscal 2018 as compared to fiscal 2017, primarily due to decreased repurchases of common stock, coupled with lower proceeds from the issuance of common stock upon exercise of stock options.

From time to time, our Board of Directors has authorized programs under which we may repurchase shares of our common stock. Under the authorizations, the timing and actual number of shares subject to repurchase are at the discretion of management and are contingent on a number of factors, such as levels of cash generation from operations, cash requirements for acquisitions and the price of our common stock. On July 19, 2019, our Board of Directors approved an increase in the number of shares of common stock authorized for repurchase under our stock repurchase program of up to an incremental 4.5 million shares. As of December 31, 2019, 3.6 million shares remained authorized for repurchase under the repurchase program. During the years ended December 31, 2019, 2018, and 2017, we repurchased, as reported based on trade date, approximately 2.4 million, 0.5 million, and 2.4 million shares of common stock at a cost of $75.9 million, $30.0 million, and $113.2 million, respectively. We also repurchased, as reported based on trade date, approximately 198,000, 138,000, and 135,000 shares of common stock at a cost of $6.5 million, $8.1 million, and $6.4 million, to help administratively facilitate the withholding and subsequent remittance of personal income and payroll taxes for individuals receiving RSUs. For a detailed discussion of our common stock repurchases, refer to Note 11, *Stockholders' Equity*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K.

We enter into foreign currency forward-exchange contracts, which typically mature within six months, to hedge a portion of our exposure to foreign currency fluctuations of foreign currency-denominated revenue, costs of revenue, certain operating expenses, receivables, payables, and cash balances. We record on the consolidated balance sheets at each reporting period the fair value of our forward-exchange contracts and record any fair value adjustments in our consolidated statements of operations and on our consolidated balance sheets. Gains and losses associated with currency rate changes on hedge contracts that are non-designated under the authoritative guidance for derivatives and hedging are recorded within other income (expense), net, offsetting foreign exchange gains and losses on our monetary assets and liabilities. Gains and losses associated with currency rate changes on hedge contracts that are designated cash flow hedges under the authoritative guidance for derivatives and hedging are recorded within accumulated other comprehensive income until the related revenue, costs of revenue, or expenses are recognized.

Based on our current plans and market conditions, we believe that our existing cash, cash equivalents and short-term investments, together with cash generated from operations, will be sufficient to satisfy our anticipated cash requirements for at least the next twelve months. However, we may require or desire additional funds to support our operating expenses and capital requirements or for other purposes, such as acquisitions, and may seek to raise such additional funds through public or private equity financing or from other sources. We cannot assure you that additional financing will be available at all or that, if available, such financing would be obtainable on terms favorable to us and would not be dilutive. Our future liquidity and cash requirements will depend on numerous factors, including the introduction of new products and potential acquisitions of related businesses or technology.

Backlog

As of December 31, 2019, we had a backlog of approximately $35.3 million, compared to approximately $38.8 million as of December 31, 2018, primarily due to product demand required in the future. Our backlog consists of products for which customer purchase orders have been received and that are scheduled or in the process of being scheduled for shipment. As we typically fulfill orders received within a relatively short period (e.g., within a few weeks for our top three customers) after receipt, our revenue in any fiscal year depends primarily upon orders booked and the availability of supply of our products in that year. In addition, most of our backlog is subject to rescheduling or cancellation with minimal penalties. As a result, our backlog as of any particular date may not be an indicator of revenue for any succeeding period. Similarly, there is a lack of meaningful correlation between year-over-year changes in backlog as compared with year-over-year changes in revenue. Accordingly, we do not believe that backlog information is material to an understanding of our overall business, and backlog as of any particular date should not be considered a reliable indicator of our ability to achieve any particular level of revenue or financial performance.

Contractual Obligations

The following table summarizes our non-cancelable purchase obligations, other non-trade purchase commitments, and the Tax Act payables as of December 31, 2019:

	Payments due by period				
	Total	Less Than 1 Year	1 - 3 Years	3 -5 Years	More Than 5 Years
	(In thousands)				
Purchase obligations	$ 85,326	$ 85,326	$ —	$ —	$ —
Operating leases	37,818	10,460	15,120	8,864	$ 3,374
Other non-trade purchase commitments	17,366	1,575	3,390	3,738	8,663
Tax Act payables	6,549	—	—	2,792	3,757
	$ 147,059	$ 97,361	$ 18,510	$ 15,394	$ 15,794

We have entered into various master purchase agreements for inventory with suppliers. Generally, under these agreements, 50% of orders are cancelable by giving notice 46 to 60 days prior to the expected shipment date and 25% of orders are cancelable by giving notice 31 to 45 days prior to the expected shipment date. Orders are non-cancelable within 30 days prior to the expected shipment date. For those orders not governed by master purchase agreements the commitments are governed by the commercial terms on our purchase orders subject to acknowledgment from our suppliers. As of December 31, 2019, we had approximately $85.3 million in non-cancelable purchase commitments with suppliers. We establish a loss liability for all products we do not expect to sell for which we have committed purchases from suppliers. Such losses have not been material to date. From time to time our suppliers procure unique complex components on our behalf. If these components do not meet specified technical criteria or are defective, we should not be obligated to purchase the materials. However, disputes may arise as a result and significant resources may be spent resolving such disputes.

We lease office space, cars, distribution centers and equipment under non-cancelable operating leases with various expiration dates through December 2026. The terms of certain of our facility leases provide for rental payments on a graduated scale. Lease expense is recognized on a straight-line basis over the lease term. The amounts presented are consistent with contractual terms and are not expected to differ significantly, unless a substantial change in our headcount needs requires us to exit an office facility early or expand our occupied space.

As of December 31, 2019, we had long term, non-cancellable purchase commitments of $17.4 million pertaining to non-trade activities.

As of December 31, 2019, we had estimated long term liability of $6.5 million related to a one-time transaction tax that resulted from the passage of the Tax Act.

As of December 31, 2019 and 2018, we had $11.1 million and $15.4 million, respectively, of total gross unrecognized tax benefits and related interest and penalties. The timing of any payments that could result from these unrecognized tax benefits will depend upon a number of factors. The unrecognized tax benefits have been excluded from the contractual obligations table because reasonable estimates cannot be made of whether, or when, any cash payments for such items might occur. The possible reduction in liabilities for uncertain tax positions in multiple jurisdictions that may impact the statements of operations in the next 12 months is approximately $0.6 million, excluding the interest, penalties and the effect of any related deferred tax assets or liabilities.

Off-Balance Sheet Arrangements

As of December 31, 2019, we did not have any off-balance sheet arrangements as defined in Item 303(a)(4)(ii) of SEC Regulation S-K.

Recent Accounting Pronouncements

For a complete description of recent accounting pronouncements, including the expected dates of adoption and estimated effects on financial condition and results of operations, refer to Note 1, *The Company and Summary of Significant Accounting Policies*, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K.

Item 7A. *Quantitative and Qualitative Disclosures About Market Risk*

Interest Rate Risk

We do not use derivative financial instruments in our investment portfolio. We have an investment portfolio of fixed income securities that are classified as available-for-sale securities. These securities, like all fixed income instruments, are subject to interest rate risk and will fall in value if market interest rates increase. We attempt to limit this exposure by investing primarily in highly rated short-term securities. Our investment policy requires investments to be rated triple-A with the objective of minimizing the potential risk of principal loss. Due to the short duration and conservative nature of our investment portfolio, a hypothetical movement of 10% in interest rates would not have a material impact on our operating results and the total value of the portfolio over the next fiscal year. We monitor our interest rate and credit risks, including our credit exposure to specific rating categories and to individual issuers. There were no impairment charges on our investments during fiscal 2019.

Foreign Currency Exchange Rate Risk

We invoice some of our international customers in foreign currencies including, but not limited to, the Australian dollar, British pound, euro, Canadian dollar, and Japanese yen. As the customers that are currently invoiced in local currency become a larger percentage of our business, or to the extent we begin to bill additional customers in foreign currencies, the impact of fluctuations in foreign currency exchange rates could have a more significant impact on our results of operations. For those customers in our international markets that we continue to sell to in U.S. dollars, an increase in the value of the U.S. dollar relative to foreign currencies could make our products more expensive and therefore reduce the demand for our products. Such a decline in the demand for our products could reduce sales and negatively impact our operating results. Certain operating expenses of our foreign operations require payment in the local currencies.

We are exposed to risks associated with foreign exchange rate fluctuations due to our international sales and operating activities. These exposures may change over time as business practices evolve and could negatively impact our operating results and financial condition. Additionally, we enter into certain foreign currency forward contracts that have been designated as cash flow hedges under the authoritative guidance for derivatives and hedging to partially offset our business exposure to foreign currency exchange rate risk on portions of our anticipated foreign currency net revenue, cost of revenue, and certain operating expenses. The objective of these foreign currency forward contracts is to reduce the impact of currency exchange rate movements on our operating results by offsetting gains and losses on the forward contracts with increases or decreases in foreign currency transactions. The contracts are marked-to-market on a monthly basis with gains and losses included in other income (expense), net in the consolidated statements of operations or in accumulated other comprehensive income on the consolidated balance sheets which are further reclassified from other comprehensive income to revenue, cost of revenue, or operating expenses when the underlying hedged items are recognized. We also use foreign currency forward contracts to partially offset our business exposure to foreign currency exchange rate risk associated with our foreign currency denominated assets and liabilities. These non-designated hedges are carried at fair value with adjustments to fair value recorded to other income (expense), net in our consolidated statements of operations.

We do not use foreign currency contracts for speculative or trading purposes. Hedging of our balance sheet and anticipated cash flow exposures may not always be effective to protect us against currency exchange rate fluctuations. In addition, we do not fully hedge our balance sheets and anticipated cash flow exposures, leaving us at risk to foreign exchange gains and losses on the un-hedged exposures. If there were an adverse movement in exchange rates, we might suffer significant losses. For additional disclosure on our foreign currency contracts, refer to Note 6, *Derivative Financial Instruments,* in Notes to Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K.

As of December 31, 2019, we had net assets in various local currencies. A hypothetical 10% movement in foreign exchange rates would result in a before-tax positive or negative impact of $0.2 million net income, net of our hedged position at December 31, 2019. Actual future gains and losses associated with our foreign currency exposures and positions may differ materially from the sensitivity analyses performed as of December 31, 2019 due to the inherent limitations associated with predicting the foreign currency exchange rates, and our actual exposures and positions. For the year ended December 31, 2019, 23% of total net revenue was denominated in a currency other than the U.S. dollar.

Item 8. *Financial Statements and Supplementary Data*

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of NETGEAR, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of NETGEAR, Inc. and its subsidiaries (the “Company”) as of December 31, 2019 and 2018, and the related consolidated statements of operations, of comprehensive income (loss), of stockholders’ equity and of cash flows for each of the three years in the period ended December 31, 2019, including the related notes and financial statement schedule listed in the index appearing under Item 15(a)(2) (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company changed the manner in which it accounts for leases in 2019.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management’s Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Provision for Excess and Obsolete Inventory

As described in Notes 1 and 5 to the consolidated financial statements, on a quarterly basis management assesses the value of inventory and writes down its value for estimated excess and obsolete inventory based upon assumptions about the future demand by reviewing inventory quantities on hand and on order under non-cancelable purchase commitments in comparison to the estimated forecast of product demand to determine what inventory, if any, is not saleable at or above cost. Management's analysis is primarily based on the demand forecast which takes into account market conditions, product development plans, product life expectancy and other factors. The recorded provision for excess and obsolete inventory was $3.9 million for the year ended December 31, 2019.

The principal considerations for our determination that performing procedures relating to the provision for excess and obsolete inventory is a critical audit matter are there was significant judgment by management to estimate excess and obsolete inventory, which in turn led to a high degree of auditor judgment, subjectivity and effort in performing audit procedures and in evaluating audit evidence relating to significant assumptions, including demand forecasts.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the provision for excess and obsolete inventory. These procedures also included, among others, testing management's process for estimating excess and obsolete inventory, including evaluating the appropriateness of the method, testing the completeness, accuracy, and relevance of underlying data used in the estimate and evaluating the reasonableness of significant assumptions used by management, including demand forecasts. Evaluating the reasonableness of the demand forecast assumptions involved considering (i) the accuracy of historical demand forecasting, (ii) historical sales trends and (iii) product life expectancy.

/s/ PricewaterhouseCoopers LLP
San Jose, California
February 18, 2020
We have served as the Company's auditor since 2002.

NETGEAR, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share data)

	As of	
	December 31, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 190,208	$ 201,047
Short-term investments	5,499	73,317
Accounts receivable, net of allowance for doubtful accounts of $1,079 and $1,254 as of December 31, 2019 and December 31, 2018, respectively	277,168	303,667
Inventories	235,489	243,871
Prepaid expenses and other current assets	35,745	35,997
Total current assets	744,109	857,899
Property and equipment, net	17,683	20,177
Operating lease right-of-use assets, net	28,917	—
Intangibles, net	10,104	17,146
Goodwill	80,721	80,721
Other non-current assets	74,279	67,433
Total assets	$ 955,813	$ 1,043,376
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 80,531	$ 139,748
Accrued employee compensation	20,024	31,666
Other accrued liabilities	189,547	199,472
Deferred revenue	6,450	11,086
Income taxes payable	1,839	2,020
Total current liabilities	298,391	383,992
Non-current income taxes payable	15,307	19,600
Non-current operating lease liabilities	25,434	—
Other non-current liabilities	7,988	12,232
Total liabilities	347,120	415,824
Commitments and contingencies (Note 10)		
Stockholders' equity:		
Preferred stock: $0.001 par value; 5,000,000 shares authorized; none issued or outstanding	—	—
Common stock: $0.001 par value; 200,000,000 shares authorized; shares issued and outstanding: 29,925,008 and 31,562,358 as of December 31, 2019 and 2018, respectively	30	32
Additional paid-in capital	831,365	793,585
Accumulated other comprehensive income (loss)	21	(15)
Accumulated deficit	(222,723)	(166,050)
Total stockholders' equity	608,693	627,552
Total liabilities and stockholders' equity	$ 955,813	$ 1,043,376

The accompanying notes are an integral part of these consolidated financial statements.

NETGEAR, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share data)

	Year Ended December 31,		
	2019	2018	2017
Net revenue	$ 998,763	$ 1,058,816	$ 1,039,169
Cost of revenue	704,535	717,118	731,453
Gross profit	294,228	341,698	307,716
Operating expenses:			
Research and development	77,982	82,416	71,893
Sales and marketing	138,150	152,569	138,679
General and administrative	49,432	64,857	54,346
Other operating expenses, net	2,476	3,142	245
Total operating expenses	268,040	302,984	265,163
Income from operations	26,188	38,714	42,553
Interest income, net	2,539	3,980	2,114
Other income (expense), net	844	510	1,557
Income before income taxes	29,571	43,204	46,224
Provision for income taxes	3,780	25,878	57,357
Net income (loss) from continuing operations	25,791	17,326	(11,133)
Net income (loss) from discontinued operations, net of tax	—	(35,655)	30,569
Net income (loss)	25,791	(18,329)	19,436
Net loss attributable to non-controlling interest in discontinued operations	—	(9,167)	—
Net income (loss) attributable to NETGEAR, Inc.	$ 25,791	$ (9,162)	$ 19,436
Net income (loss) per share - basic:			
Income (loss) from continuing operations	$ 0.83	$ 0.55	$ (0.35)
Income (loss) from discontinued operations attributable to NETGEAR, Inc.	—	(0.84)	0.96
Net income (loss) attributable to NETGEAR, Inc.	$ 0.83	$ (0.29)	$ 0.61
Net income (loss) per share - diluted:			
Income (loss) from continuing operations	$ 0.81	$ 0.52	$ (0.35)
Income (loss) from discontinued operations attributable to NETGEAR, Inc.	—	(0.80)	0.96
Net income (loss) attributable to NETGEAR, Inc.	$ 0.81	$ (0.28)	$ 0.61
Weighted average shares used to compute net income (loss) per share:			
Basic	30,936	31,626	32,097
Diluted	31,965	33,137	32,097

The accompanying notes are an integral part of these consolidated financial statements.

NETGEAR, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In thousands)

	Year Ended December 31,		
	2019	**2018**	**2017**
Net income (loss)	$ 25,791	$ (18,329)	$ 19,436
Other comprehensive income (loss), before tax:			
Change in unrealized gains and losses on derivatives	30	834	(3,068)
Change in unrealized gains and losses on available-for-sale investments	16	128	(115)
Other comprehensive income (loss), before tax	46	962	(3,183)
Tax benefit (provision) related to derivatives	(6)	(76)	352
Tax benefit (provision) related to available-for-sale investments	(4)	(50)	42
Other comprehensive income (loss), net of tax	36	836	(2,789)
Comprehensive income (loss)	25,827	(17,493)	16,647
Comprehensive loss attributable to non-controlling interest, net of tax	—	(9,165)	—
Comprehensive income (loss) attributable to NETGEAR, Inc.	$ 25,827	$ (8,328)	$ 16,647

The accompanying notes are an integral part of these consolidated financial statements.

NETGEAR, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands)

	NETGEAR, Inc. Stockholders						
	Common Stock						
	Shares	Amount	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings (Accumulated Deficit)	Non-Controlling Interest	Total
Balance as of December 31, 2016	32,958	$ 33	$ 566,307	$ 1,938	$ 228,541	$ —	$ 796,819
Change in unrealized gains and losses on available-for-sale investments, net of tax	—	—	—	(73)	—	—	(73)
Change in unrealized gains and losses on derivatives, net of tax	—	—	—	(2,716)	—	—	(2,716)
Net income	—	—	—	—	19,436	—	19,436
Stock-based compensation	—		22,147	—	—	—	22,147
Repurchase of common stock	(2,378)	(2)	—	—	(113,159)	—	(113,161)
Restricted stock unit withholdings	(135)	—	—	—	(6,415)	—	(6,415)
Issuance of common stock under stock-based compensation plans	875	—	14,356	—	—	—	14,356
Cumulative-effect adjustment from adoption of ASU 2016-09	—	—	327	—	(235)	—	92
Balance as of December 31, 2017	31,320	31	603,137	(851)	128,168	—	730,485
Adoption of ASU 2014-09 (ASC 606 Rev Rec), ASU 2016-16, and ASU 2018-02, net of tax	—	—	—	—	8,593	—	8,593
Change in unrealized gains and losses on available-for-sale investments, net of tax	—	—	—	78	—	—	78
Change in unrealized gains and losses on derivatives, net of tax	—	—	—	758	—	—	758
Net loss attributable to NETGEAR, Inc.	—	—	—	—	(9,162)	—	(9,162)
Net loss attributable to non-controlling interest	—	—	—	—	—	(9,167)	(9,167)
Stock-based compensation	—	—	31,966	—	—	—	31,966
Stock-based compensation for Arlo's shares	—	—	—	—	—	942	942
Sale of Arlo's common stock	—	—	146,088	—	—	24,158	170,246
Repurchases of common stock	(473)	—	—	—	(30,000)	—	(30,000)
Restricted stock unit withholdings	(138)	—	—	—	(8,065)	—	(8,065)
Issuance of common stock under stock-based compensation plans	853	1	12,394	—	—	—	12,395
Distribution of Arlo	—	—	—	—	(255,584)	(15,933)	(271,517)
Balance as of December 31, 2018	31,562	32	793,585	(15)	(166,050)	—	627,552
Change in unrealized gains and losses on available-for-sale investments, net of tax	—	—	—	12	—	—	12
Change in unrealized gains and losses on derivatives, net of tax	—	—	—	24	—	—	24
Net income	—	—	—	—	25,791	—	25,791
Stock-based compensation	—	—	29,137	—	—	—	29,137
Repurchase of common stock	(2,406)	(3)	—	—	(75,943)	—	(75,946)
Restricted stock unit withholdings	(198)	—	—	—	(6,521)	—	(6,521)
Issuance of common stock under stock-based compensation plans	967	1	8,643	—	—	—	8,644
Balance as of December 31, 2019	29,925	$ 30	$ 831,365	$ 21	$ (222,723)	$ —	$ 608,693

The accompanying notes are an integral part of these consolidated financial statements.

NETGEAR, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31, 2019	2018	2017
Cash flows from operating activities:			
Net income (loss)	$ 25,791	$ (18,329)	$ 19,436
Net (income) loss from discontinued operations	—	35,655	(30,569)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation and amortization	19,406	18,851	22,529
Stock-based compensation	29,137	26,461	18,969
Deferred income taxes	(1,379)	2,459	21,119
Provision for excess and obsolete inventory	3,878	2,904	2,866
Other	29	116	46
Changes in assets and liabilities, net of effect of acquisitions:			
Accounts receivable	26,500	(43,055)	(23,121)
Inventories	4,504	(85,064)	34,336
Prepaid expenses and other assets	(1,654)	(12,114)	4,604
Accounts payable	(56,614)	45,503	(432)
Accrued employee compensation	(11,642)	7,145	(5,278)
Other accrued liabilities	(16,603)	15,589	15,109
Deferred revenue	(3,354)	5,759	2,440
Income taxes payable	(4,474)	(16,939)	18,293
Net cash provided by (used in) continuing operating activities	13,525	(15,059)	100,347
Net cash used in discontinued operating activities	—	(88,152)	(12,823)
Net cash provided by (used in) operating activities	13,525	(103,211)	87,524
Cash flows from investing activities:			
Purchases of short-term investments	(1,617)	(81,814)	(136,556)
Proceeds from maturities of short-term investments	70,790	137,058	135,549
Purchases of property and equipment	(14,230)	(12,251)	(10,140)
Purchases of long-term investments	(5,484)	(1,091)	(4,400)
Proceeds from sale of long-term investments	—	624	—
Payments made in connection with business acquisitions, net of cash acquired	—	(14,352)	—
Net cash provided by (used in) continuing investing activities	49,459	28,174	(15,547)
Net cash used in discontinued investing activities	—	(71,363)	(4,271)
Net cash provided by (used in) investing activities	49,459	(43,189)	(19,818)
Cash flows from financing activities:			
Repurchases of common stock	(75,946)	(30,000)	(113,161)
Restricted stock unit withholdings	(6,521)	(8,065)	(6,415)
Proceeds from exercise of stock options	5,027	6,841	9,508
Proceeds from issuance of common stock under employee stock purchase plan	3,617	5,554	4,764
Net cash used in continuing financing activities	(73,823)	(25,670)	(105,304)
Net cash provided by discontinued financing activities	—	170,247	—
Net cash provided by (used in) financing activities	(73,823)	144,577	(105,304)
Net decrease in cash and cash equivalents	(10,839)	(1,823)	(37,598)
Cash and cash equivalents, at beginning of period	201,047	202,870	240,468
Cash and cash equivalents, at end of period	$ 190,208	$ 201,047	$ 202,870
Supplemental Cash Flow Information:			
Cash paid for income taxes	$ 8,876	$ 23,220	$ 32,090
Non-cash investing and financing activities:			
Change in accounts payable and other accrued liabilities relating to property and equipment additions	$ (4,360)	$ 2,604	$ 638
Fair value of contingent consideration in connection with business acquisition in other accrued liabilities	$ —	$ 5,953	$ —

The accompanying notes are an integral part of these consolidated financial statements.

Note 1. The Company and Summary of Significant Accounting Policies

The Company

NETGEAR, Inc. (“NETGEAR” or the “Company”) was incorporated in Delaware in January 1996. The Company is a global company that delivers innovative, advanced networking technologies and Internet connected products to consumers, businesses, and service providers. The Company’s products are designed to simplify and improve people’s lives. The Company’s goal is to enable people to collaborate and connect to a world of information and entertainment. The Company is dedicated to delivering innovative and advanced connected solutions ranging from mobile and cloud-based services for enhanced control and security, to smart networking products, video over Ethernet for Pro AV applications, easy-to-use WiFi solutions and performance gaming routers to enhance console, online and cloud game play. The Company's products are built on a variety of technologies such as wireless (WiFi and 4G/5G mobile), Ethernet and powerline, with a focus on reliability and ease-of-use. Additionally, the Company continually invests in research and development to create new technologies and to capitalize on technological inflection points and trends, such as WiFi 6, 5G and Pro-AV. NETGEAR's product line consist of devices that create and extend wired and wireless networks as well as devices that provide a special function and attach to the network, such as smart digital canvasses and services. These products are available in multiple configurations to address the changing needs of the Company’s customers in each geographic region in which they are sold.

On February 6, 2018, the Company announced that its Board of Directors had unanimously approved the pursuit of a separation of its smart camera business, Arlo, from NETGEAR (the “Separation”) to be effected by way of an initial public offering ("IPO") and spin-off ("the Spin-Off"). On December 31, 2018, the Company completed the Spin-Off of Arlo Technologies, Inc. (“Arlo”), a majority owned subsidiary and reporting segment of NETGEAR at the time. Arlo’s historical financial results for periods prior to the Spin-Off are reflected in the consolidated financial statements as discontinued operations. For further details, refer to Note 3, *Discontinued Operations*.

The Company sells networking products through multiple sales channels worldwide, including traditional retailers, online retailers, wholesale distributors, direct market resellers (“DMRs”), value-added resellers (“VARs”), broadband service providers and its webstore at www.netgear.com.

Basis of presentation

The accompanying consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All inter-company accounts and transactions have been eliminated in the consolidation of these subsidiaries.

Fiscal periods

The Company's fiscal year begins on January 1 of the year stated and ends on December 31 of the same year. The Company reports its results on a fiscal quarter basis rather than on a calendar quarter basis. Under the fiscal quarter basis, each of the first three fiscal quarters ends on the Sunday closest to the calendar quarter end, with the fourth quarter ending on December 31.

Use of estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles ("GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reported period. Actual results could differ from those estimates.

Significant Accounting Policies

Cash and cash equivalents

The Company considers all highly liquid investments with an original maturity or a remaining maturity at the time of purchase of three months or less to be cash equivalents. The Company deposits cash and cash equivalents with high credit quality financial institutions.

Investments

Short-term investments are partially comprised of marketable and convertible debt securities that consist of government and private company debts with an original maturity or a remaining maturity at the time of purchase, of greater than three months and no more than 12 months. These debt securities are classified as available-for-sale securities in accordance with the provisions of the authoritative guidance for investments and are carried at fair value with unrealized gains and losses reported as a separate component of stockholders' equity.

Short-term investments also include marketable securities related to deferred compensation under the Company's Deferred Compensation Plan. Mutual funds are the only investments allowed in the Company's Deferred Compensation Plan and the investments are held in a grantor trust formed by the Company. The Company has classified these investments as trading securities as the grantor trust actively manages the asset allocation to match the participants' notional fund allocations. These securities are recorded at fair market value with unrealized gains and losses included in other income (expense), net.

Long-term investments are comprised of equity investments without readily determinable fair values and are included in Other non-current assets on the consolidated balance sheets. The Company does not have a controlling interest or the ability to exercise significant influence over these investees and these investments do not have readily determinable fair values. Equity investments without readily determinable fair values are accounted for at cost, less impairment and adjusted for subsequent observable price changes obtained from orderly transactions for identical or similar investments issued by the same investee. Such changes in the basis of the equity investment are recognized in Other income (expense), net in the consolidated statements of operations.

Certain risks and uncertainties

The Company's products are concentrated in the networking and smart connected industries, which are characterized by rapid technological advances, changes in customer requirements and evolving regulatory requirements and industry standards. The success of the Company depends on management's ability to anticipate and/or to respond quickly and adequately to such changes. Any significant delays in the development or introduction of products could have a material adverse effect on the Company's business and operating results.

The Company relies on a limited number of third parties to manufacture all of its products. If any of the Company's third-party manufacturers cannot or will not manufacture its products in required volumes, on a cost-effective basis, in a timely manner, or at all, the Company will have to secure additional manufacturing capacity. Any interruption or delay in manufacturing could have a material adverse effect on the Company's business and operating results.

Derivative financial instruments

The Company uses foreign currency forward contracts that generally mature within six months of inception to manage the exposures to foreign exchange risk related to expected future cash flows on certain forecasted revenue, cost of revenue, operating expenses, and on certain existing assets and liabilities. Under its foreign currency risk management strategy, the Company utilizes derivative instruments to reduce the impact of currency exchange rate movements on the Company's operating results by offsetting gains and losses on the forward contracts with increases or decreases in foreign currency transactions. The Company does not use derivative financial instruments for speculative purposes.

The Company accounts for its derivative instruments as either assets or liabilities and records them at fair value. Derivatives that are not designated as hedges under the authoritative guidance for derivatives and hedging are adjusted to fair value through earnings. For derivative instruments that hedge the exposure to variability in expected future cash flows and are designated as cash flow hedges, the gains or losses on the derivative instrument are reported as a component of accumulated other comprehensive income in stockholders' equity and reclassified into the same line item in the statement of operations as the hedged transaction, and in the same period that the hedged transaction effects earnings. To receive hedge accounting treatment, cash flow hedges must be highly effective in offsetting changes to expected future cash flows on hedged transactions.

Concentration of credit risk

Financial instruments that potentially subject the Company to a concentration of credit risk consist of cash and cash equivalents, short-term investments and accounts receivable. The Company believes that there is minimal credit risk associated with the investment of its cash and cash equivalents and short-term investments, due to the restrictions placed on the type of investment that can be entered into under the Company's investment policy. The Company's short-term investments consist of investment-grade securities, and the Company's cash and investments are held and managed by recognized financial institutions.

The Company's customers are primarily distributors as well as retailers and broadband service providers who sell or distribute the products to a large group of end-users. The Company maintains an allowance for doubtful accounts for estimated losses resulting from the inability of the Company's customers to make required payments. The Company regularly performs credit evaluations of the Company's customers' financial condition and considers factors such as historical experience, credit quality, age of the accounts receivable balances, geographic or country-specific risks and current economic conditions that may affect customers' ability to pay. The Company does not require collateral from its customers.

As of December 31, 2019, Best Buy, Inc. and affiliates, Amazon and affiliates and Walmart and affiliates accounted for approximately 34%, 13% and 10% of the Company's total accounts receivable, respectively. As of December 31, 2018, Best Buy, Inc. and affiliates, and Amazon and affiliates accounted for 31%, and 13% of the Company's total accounts receivable, respectively. No other customers accounted for 10% or greater of the Company's total accounts receivable.

The Company is exposed to credit loss in the event of nonperformance by counterparties to the foreign currency forward contracts used to mitigate the effect of foreign currency exchange rate changes. The Company believes the counterparties for its outstanding contracts are large, financially sound institutions and thus, the Company does not anticipate nonperformance by these counterparties. In the event of turbulence or the onset of a financial crisis in financial markets, the failure of counterparties cannot be ruled out.

Fair value measurements

The carrying amounts of the Company's financial instruments, including cash equivalents, short-term investments, accounts receivable, and accounts payable approximate their fair values due to their short maturities. Foreign currency forward contracts are recorded at fair value based on observable market data. Refer to Note 14, *Fair Value Measurements,* in Notes to Consolidated Financial Statements for disclosures regarding fair value measurements in accordance with the authoritative guidance for fair value measurements and disclosures.

Allowance for doubtful accounts

The Company maintains an allowance for doubtful accounts for estimated losses resulting from the inability of its customers to make required payments. The Company regularly performs credit evaluations of its customers' financial condition and considers factors such as historical experience, credit quality, age of the accounts receivable balances, and geographic or country-specific risks and economic conditions that may affect a customer's ability to pay. The allowance for doubtful accounts is reviewed quarterly and adjusted if necessary based on the Company's assessments of its customers' ability to pay. If the financial condition of the Company's customers should deteriorate or if actual defaults are higher than the Company's historical experience, additional allowances may be required, which could have an adverse impact on operating expenses.

Inventories

Inventories consist primarily of finished goods which are valued at the lower of cost and net realizable value, with cost being determined using the first-in, first-out method. On a quarterly basis, the Company assesses the value of the inventory and write down its value for estimated excess and obsolete inventory based upon assumptions about the future demand by reviewing inventory quantities on hand and on order under non-cancelable purchase commitments in comparison to the Company's estimated forecast of product demand to determine what inventory, if any, is not saleable at or above cost. The Company's analysis is primarily based on the demand forecast which takes into account market conditions, product development plans, product life expectancy and other factors. At the point of loss recognition, a new, lower cost basis for that inventory is established, and subsequent changes in facts and circumstances do not result in the restoration or increase of the newly established cost basis.

Property and equipment, net

Property and equipment are stated at historical cost, less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets as follows:

Computer equipment	2 years
Furniture and fixtures	5 years
Software	2-5 years
Machinery and equipment	2-3 years
Leasehold improvements	Shorter of the lease term or 5 years

Recoverability of assets to be held and used is measured by comparing the carrying amount of an asset to the estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of the asset exceeds its estimated undiscounted future cash flows, an impairment charge is recognized in the amount by which the carrying amount of the asset exceeds the fair value of the asset. The carrying value of the asset is reviewed on a regular basis for the existence of facts, both internal and external, that may suggest impairment.

Leases

The Company determines if an arrangement is a lease or contains a lease at inception. Operating leases are included in operating lease right-of-use ("ROU") assets, other accrued liabilities, and operating lease liabilities on the consolidated balance sheets. Leases with an initial term of 12 months or less are not recorded on the consolidated balance sheets. The Company has lease agreements with lease and non-lease components, which are generally accounted for separately. For certain office leases, the Company accounts for the lease and non-lease components as a single lease component to the extent that the timing and pattern of transfer are similar for the lease and non-lease components and the lease component qualifies as an operating lease. Lease expense is recognized on a straight-line basis over the lease term.

ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. Generally the implicit rate of interest in arrangements is not readily determinable and the Company utilizes its incremental borrowing rate in determining the present value of lease payments. The Company's incremental borrowing rate is a hypothetical rate based on a benchmark interest rate adjusted for its specific credit risk. The operating lease ROU asset includes any lease payments made and excludes lease incentives.

Goodwill

Goodwill represents the purchase price over estimated fair value of net assets of businesses acquired in a business combination. Goodwill acquired in a business combination is not amortized, but instead tested for impairment at least annually on the first day of the fourth quarter. Should certain events or indicators of impairment occur between annual impairment tests, the Company performs the impairment test as those events or indicators occur. Examples of such events or circumstances include the following: a significant decline in the Company's expected future cash flows; a sustained, significant decline in the Company's stock price and market capitalization; a significant adverse change in the business climate; and slower growth rates.

Goodwill is tested for impairment at the reporting unit level by first performing a qualitative assessment to determine whether it is more likely than not (that is, a likelihood of more than 50%) that the fair value of the reporting unit is less than its carrying value. The qualitative assessment considers the following factors: macroeconomic conditions, industry and market considerations, cost factors, overall company financial performance, events affecting the reporting units, and changes in the Company's share price. If the reporting unit does not pass the qualitative assessment, the Company estimates its fair value and compares the fair value with the carrying value of its reporting unit, including goodwill. If the fair value is greater than the carrying value of its reporting unit, no impairment is recorded. If the fair value is less than the carrying value, an impairment loss is recognized for the amount that the carrying amount of a reporting unit, including goodwill, exceeds its fair value, limited to the total amount of goodwill allocated to that reporting unit. The impairment charge would be recorded to earnings in the consolidated statements of operations.

Intangibles, net

Purchased intangibles with finite lives are amortized using the straight-line method over the estimated economic lives of the assets, which range from three to ten years. Finite-lived intangibles are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Determination of recoverability is based on an estimate of undiscounted future cash flows resulting from the use of the asset and its eventual disposition.

Revenue Recognition

On January 1, 2018, the Company adopted ASU 2014-09, "Revenue from Contracts with Customers" (Topic 606) ("ASC 606") and applied this guidance to those contracts which were not completed at the date of adoption using the modified retrospective method. The comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods (ASC 605). The adoption did not have a significant impact to the nature and timing of the Company's revenues, results of operations, cash flows and statement of financial position.

Under 606, revenue from contracts with customers is recognized when control of the promised goods or services is transferred to the customers, in an amount that reflects the consideration, and the Company expects to be entitled to in exchange for those goods or services.

The majority of revenue comes from product sales, consisting of sales of Connected Home and SMB hardware products to customers (retailers, distributors and service providers). Revenue is recognized at a point in time when control of the goods are transferred to the customer, generally occurring upon shipment or delivery dependent upon the terms of the underlying contract. The amount recognized reflects the consideration the Company expects to be entitled to in exchange for the transferred goods.

Revenue for subscription sales is generally recognized over time on a ratable basis over the contract term beginning on the date that the service is expected to be delivered. The subscription contracts are generally for 30 days or 12 months in length, billed in advance. Additionally, the Company sells technical support services and extended warranty which consist of telephone and internet access to technical support personnel, hardware replacement and updates to software features. All such service or support sales are typically recognized using an output measure of progress by looking at the time elapsed as the contracts generally provide the customer equal benefit throughout the contract period because the Company transfers control evenly by providing a stand-ready service. The Company also sells services bundled with hardware products and accounts for these sales in line with the multiple performance obligations guidance. We combine contracts with a customer if contracts are negotiated with a single commercial substance or contain price dependencies.

Revenue from all sales types is recognized at the transaction price, the amount which the Company expects to be entitled to in exchange for transferring goods or providing services. Transaction price is calculated as selling price net of variable consideration which may include estimates for future returns, sales incentives and price protection related to current period product revenue. The Company's standard obligation to its direct customers generally provides for a full refund in the event that such product is not merchantable or is found to be damaged or defective. In determining estimates for future returns, the Company estimates variable consideration at the expected value which is based on management's analysis of historical data, channel inventory levels, current economic trends and changes in customer demand for the Company's products. Sales incentives and price protection are determined based on a combination of the actual amounts committed and through estimating future expenditure based upon historical customary business practice. The Company continues to assess variable consideration estimates such that it is probable that a significant reversal of revenue will not occur.

Contracts with Multiple Performance Obligations

Some of the Company's contracts with customers contain multiple promised goods or services. Such contracts include hardware products with bundled services, networking hardware with embedded software, various software subscription services and support. For these contracts, the Company accounts for the promises separately as individual performance obligations if they are distinct. Performance obligations are determined to be considered distinct if they are both capable of being distinct and distinct within the context of the contract. In determining whether performance obligations meet the criteria for being distinct, the Company considers a number of factors, such as the degree of interrelation and interdependence between obligations, and whether or not the good or service significantly modifies or transforms another good or service in the contract. The embedded software on most of the hardware products is not considered distinct and therefore the combined hardware and incidental software are treated as one performance obligation and recognized at the point in time when control of product transfers to the customer. Service included with certain hardware products is considered distinct and therefore the hardware and service are treated as separate performance obligations.

After identifying the separate performance obligations, the transaction price is allocated to the separate performance obligations on a relative standalone selling price basis. Standalone selling prices are generally determined based on the prices charged to customers or using an adjusted market assessment. For products, the estimated standalone selling price of the hardware is directly observable from sales of those products based on a range of prices. Standalone selling price of the service is estimated using an adjusted market approach. This may include using information such as prices charged for similar offerings and other observable inputs.

Revenue is recognized for each distinct performance obligation as control is transferred to the customer. In general, the hardware is recognized at time of shipping or delivery, while services and support are delivered over the stated service or support period. Hardware products bundled with services are recognized at the time control of the product transfers to the customer and the transaction price allocated to service is recognized over the estimated period the services are expected to be provided on a straight-line basis beginning when the customer is expected to activate their account.

For products sold with third-party services where the Company obtains control of the product before transferring it to the customer, the Company recognizes revenue based on the gross amount billed to customers. We recognize revenue on a net basis when we are acting as an agent between the customer and the vendor. Certain judgments are involved in determining when the Company obtains control, such as determining the responsible party for fulfillment of the services, whether we have inventory risk before the service is transferred or if we have discretion to establish pricing for the third-party services.

Warranties

Hardware products regularly include warranties to the end customers that consist of bug fixes, minor updates such that the product continues to function according to published specs in a dynamic environment, and phone support. These standard warranties are assurance type warranties and do not offer any services beyond the assurance that the product will continue working as specified. Therefore, warranties are not considered separate performance obligations in the arrangement. Instead, the expected cost of warranty is accrued as expense in accordance with authoritative guidance. Extended warranties are sold separately and include additional support services. The transaction price for extended warranties is accounted for as service revenue and recognized over the life of the contract.

Shipping and Handling

Shipping and handling fees billed to customers are included in Net revenue. Shipping and handling costs associated with inbound freight are included in Cost of revenue. In cases where the Company gives a freight allowance to the customer for their own inbound freight costs, such costs are appropriately recorded as a reduction in Net revenue. Shipping and handling costs associated with outbound freight are included in Sales and marketing expenses. The Company has elected to account for shipping and handling activities related to contracts with customers as costs to fulfill the promise to transfer the associated products.

Shipping and handling costs associated with outbound freight totaled \$8.7 million, \$9.5 million and \$8.6 million in the years ended December 31, 2019, 2018 and 2017 respectively.

Research and development

Costs incurred in the research and development of new products are charged to expense as incurred.

Advertising costs

Advertising costs are expensed as incurred. Total advertising and promotional expenses were $21.3 million, $24.7 million, and $23.2 million in the years ended December 31, 2019, 2018 and 2017 respectively.

Income taxes

The Company accounts for income taxes under an asset and liability approach. Under this method, income tax expense is recognized for the amount of taxes payable or refundable for the current year. In addition, deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences resulting from different treatment for tax versus accounting for certain items, such as accruals and allowances not currently deductible for tax purposes. These differences result in deferred tax assets and liabilities, which are included within the consolidated balance sheets. The Company must then assess the likelihood that the Company's deferred tax assets will be recovered from future taxable income and to the extent the Company believes that recovery is not more likely than not, the Company must establish a valuation allowance. The Company's assessment considers the recognition of deferred tax assets on a jurisdictional basis. Accordingly, in assessing its future taxable income on a jurisdictional basis, the Company considers the effect of its transfer pricing policies on that income. The Tax Act introduced a new tax on global intangible low-taxed income (GILTI) effective as of January 1, 2018. The Company's policy is to treat GILTI as a period cost if and when incurred.

In the ordinary course of business there is inherent uncertainty in assessing the Company's income tax positions. The Company assesses its tax positions and records benefits for all years subject to examination based on management's evaluation of the facts, circumstances and information available at the reporting date. For those tax positions where it is more likely than not that a tax benefit will be sustained, the Company records the largest amount of tax benefit with a greater than 50 percent likelihood of being realized upon ultimate settlement with a taxing authority that has full knowledge of all relevant information. For those income tax positions where it is not more likely than not that a tax benefit will be sustained, no tax benefit has been recorded in the financial statements. Where applicable, associated interest and penalties have also been recognized as a component of income tax expense.

Net income per share

Basic net income per share is computed by dividing the net income for the period by the weighted average number of common shares outstanding during the period. Diluted net income per share is computed by dividing the net income for the period by the weighted average number of shares of common stock and potentially dilutive common stock outstanding during the period. Potentially dilutive common shares include common shares issuable upon exercise of stock options, vesting of restricted stock awards, and issuances of shares under the Employee Stock Purchase Plan, which are reflected in diluted net income per share by application of the treasury stock method. Potentially dilutive common shares are excluded from the computation of diluted net income per share when their effect is anti-dilutive.

Stock-based compensation

The Company measures stock-based compensation at the grant date based on the fair value of the award. The fair value of stock options and the shares offered under the Employee Stock Purchase Plan ("ESPP") is estimated using the Black-Scholes option pricing model. Estimated compensation cost relating to restricted stock units ("RSUs") is based on the closing fair market value of the Company's common stock on the date of grant.

The compensation expense for equity awards is recognized over the vesting period of the award under a graded vesting method. Forfeitures are accounted for as they occur. All excess tax benefits and tax deficiencies arising from stock awards vesting or settlement are recorded as income tax expense or benefit rather than in equity. Refer to Note 12, *Employee Benefit Plans,* for a further discussion on stock-based compensation.

Comprehensive income

Comprehensive income consists of net income and other gains and losses affecting stockholder's equity that the Company excluded from net income, including gains and losses related to fair value of short-term investments and the effective portion of cash flow hedges that were outstanding as of the end of the year.

Foreign currency translation and re-measurement

The Company's functional currency is the U.S. dollar for all of its international subsidiaries. Foreign currency transactions of international subsidiaries are re-measured into U.S. dollars at the end-of-period exchange rates for monetary assets and liabilities, and at historical exchange rates for non-monetary assets. Revenue is re-measured at average exchange rates in effect during each period. Expenses are re-measured at average exchange rates in effect during each period, except for expenses related to non-monetary assets, which are re-measured at historical exchange rates. Gains and losses arising from foreign currency transactions are included in Other income (expense), net.

Recent accounting pronouncements

Accounting Pronouncement Recently Adopted

ASU 2016-02

In February 2016, FASB issued ASU 2016-02, "Leases" (Topic 842), which requires a lessee to recognize on the balance sheets a right-of-use asset, representing its right to use the underlying asset for the lease term, and a corresponding lease liability. The liability is equal to the present value of lease payments while the right-of-use asset is based on the liability, subject to adjustment, such as for initial direct costs. In addition, ASU 2016-02 expands the disclosure requirements for lessees.

The Company adopted the new standard effective January 1, 2019 and was required to record a lease asset and lease liability related to its operating leases. The Company elected to utilize the alternative modified transition method, under which the cumulative-effect adjustment to the opening balance is recognized on the date of adoption while comparative prior periods continue to be reported under the guidance in effect prior to January 1, 2019. Accordingly, the Company did not restate or make related disclosures under the new standard for comparative prior periods in the period of adoption, and the Company applied the new lease standard prospectively to leases existing or commencing on or after January 1, 2019. The Company elected the package of practical expedients permitted under the transition guidance within the standard to not (1) reassess whether any expired or existing contracts are considered or contain leases; (2) reassess the lease classification for any expired or existing leases; and (3) reassess the initial direct costs for any existing leases. The Company made an accounting policy election to treat the lease and non-lease components in its office lease contracts as a single performance obligation to the extent that the timing and pattern of transfer are similar for the lease and non-lease components and the lease component qualifies as an operating lease. The Company also made an accounting policy election not to recognize lease liabilities and right-of-use assets for leases with a term of 12 months or less. The Company recognizes these lease payments on a straight-line basis over the lease term.

The following table summarizes the impact of adopting ASU 2016-02 on the Company's consolidated balance sheet for the fiscal year beginning January 1, 2019 as an adjustment to the opening balances:

	As of December 31, 2018	Adjustments	As of January 1, 2019
		(In thousands)	
Assets:			
Prepaid expenses and other current assets	$ 35,997	$ (543)	$ 35,454
Total current assets	$ 857,899	$ (543)	$ 857,356
Operating lease right-of-use assets, net	$ —	$ 39,110	$ 39,110
Total assets	$ 1,043,376	$ 38,567	$ 1,081,943
Liabilities:			
Other accrued liabilities	$ 199,472	$ 10,909	$ 210,381
Total current liabilities	$ 383,992	$ 10,909	$ 394,901
Non-current operating lease liabilities	$ —	$ 33,823	$ 33,823
Other non-current liabilities	$ 12,232	$ (6,165)	$ 6,067
Total liabilities	$ 415,824	$ 38,567	$ 454,391
Total liabilities and stockholders' equity	$ 1,043,376	$ 38,567	$ 1,081,943

The standard did not impact the Company's statement of operations and cash flows.

Accounting Pronouncements Not Yet Effective

In June 2016, the FASB issued ASU 2016-13, "Measurement of Credit Losses on Financial Instruments" (Topic 326), which replaces the incurred-loss impairment methodology and requires immediate recognition of estimated credit losses expected to occur for most financial assets, including trade receivables. Credit losses on available-for-sale debt securities with unrealized losses will be recognized as allowances for credit losses limited to the amount by which fair value is below amortized cost. The Company will adopt the new standard in the first fiscal quarter of 2020. The Company is in the process of finalizing the new credit loss models and updating its controls. Based on the composition of the Company's investment portfolio, current market conditions, and historical credit loss activity, the Company does not expect that it will have material impacts on its financial position, results of operations or cash flows.

In December 2019, the FASB issued ASU 2019-12, "Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes", which removes certain exceptions related to intra-period tax allocations and deferred tax accounting on outside basis differences in foreign subsidiaries and equity method investments. Additionally, it provides other simplifying measures for the accounting for income taxes. ASU 2019-12 is effective for the Company in the first quarter of 2021 and early adoption is permitted. The Company is currently evaluating the impact the new guidance will have on its financial position, results of operations and cash flows.

With the exception of the new standard discussed above, there have been no other new accounting pronouncements that have significance, or potential significance, to the Company's financial position, results of operations and cash flows.

Note 2. Revenue Recognition

Revenue from contracts with customers is recognized when control of the promised goods or services is transferred to the customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services.

Transaction Price Allocated to the Remaining Performance Obligations

Remaining performance obligations represent the transaction price allocated to performance obligations that are unsatisfied or partially unsatisfied as of the end of the reporting period. Unsatisfied and partially unsatisfied performance obligations consist of contract liabilities, in-transit orders with destination terms, and non-cancellable backlog. Non-cancellable backlog includes goods and services for which customer purchase orders have been accepted and that are scheduled or in the process of being scheduled for shipment.

The following table includes estimated revenue expected to be recognized in the future related to performance obligations that are unsatisfied or partially unsatisfied as of December 31, 2019:

	1 year	2 years	Greater than 2 years	Total
		(In thousands)		
Performance obligations	$ 42,767	$ 1,046	$ 1,024	$ 44,837

Contract Costs

Costs to fulfill a contract are capitalized when they relate directly to an existing contract or specific anticipated contract, generate or enhance resources that will be used to fulfill performance obligations and are recoverable. These costs include direct cost incurred at inception of a contract which enables the fulfillment of the performance obligation and totaled $1.5 million and $7.4 million as of December 31, 2019 and 2018, respectively. There was no impairment of capitalized contract costs in the fiscal years of 2019 and 2018.

Applying the practical expedient, the Company recognizes the incremental costs of obtaining contracts as an expense when incurred if the amortization period of the assets that otherwise would have been recognized is one year or less. These costs are included in Sales and marketing and General and administrative expenses. If the incremental direct costs of obtaining a contract, which consist of sales commissions, relate to a service recognized over a period longer than one year, costs are deferred and amortized in line with the related services over the period of benefit. Deferred commissions are classified as non-current based on the original amortization period of over one year. As of December 31, 2019 and 2018, there were no deferred commissions.

Contract Balances

The Company records accounts receivable when it has an unconditional right to consideration. Contract liabilities are recorded when cash payments are received or due in advance of performance. Contract liabilities consist of advance payments and deferred revenue, where the Company has unsatisfied performance obligations. Contract liabilities are mainly classified as Deferred revenue on the consolidated balance sheets.

Payment terms vary by customer. The time between invoicing and when payment is due is not significant. For certain products or services and customer types, payment is required before the products or services are delivered to the customer.

The following table reflects the contract balances as of December 31, 2019 and 2018 and January 1, 2018, respectively:

	Balance Sheet Location	December 31, 2019	December 31, 2018	January 1, 2018(*)
			(In thousands)	
Accounts receivable, net	Accounts receivable, net	$ 277,168	$ 303,667	$ 260,404
Contract liabilities - current	Deferred revenue	$ 6,450	$ 11,086	$ 5,357
Contract liabilities - non-current	Other non-current liabilities	$ 2,061	$ 779	$ 728

* Includes the adjustments made upon ASC 606 adoption using the modified retrospective method.

The difference in the balances of the Company’s contract assets and liabilities as of December 31, 2019 and December 31, 2018 primarily results from the timing difference between the Company’s performance and the customer’s payment.

During the years ended December 31, 2019 and 2018, $14.5 million and $14.8 million of revenue was deferred due to unsatisfied performance obligations, $17.9 million and $9.0 million of revenue was recognized for the satisfaction of performance obligations, $9.9 million and $4.4 million of the recognized revenue was included in the contract liability balance at the beginning of the period, respectively.

There were no significant changes in estimates during the periods that would affect the contract balances.

Disaggregation of Revenue

In the following tables, net revenue is disaggregated by geographic region and sales channel. The Company conducts business across three geographic regions: Americas; Europe, Middle-East and Africa (“EMEA”); and Asia Pacific ("APAC"). The tables also include reconciliations of the disaggregated revenue by reportable segment. The Company operates and reports in two segments: Connected Home, and Small and Medium Business (“SMB”). Sales and usage-based taxes are excluded from net revenue.

	Year Ended December 31,								
	2019			2018			2017 (1)		
	Connected Home	SMB	Total	Connected Home	SMB	Total	Connected Home	SMB	Total
Geographic regions:									
Americas	$ 529,982	$ 123,024	$ 653,006	$ 576,476	$ 124,217	$ 700,693	$ 547,314	$ 117,775	$ 665,089
EMEA	91,586	108,513	200,099	97,979	109,620	207,599	93,438	103,636	197,074
APAC	89,823	55,835	145,658	96,605	53,919	150,524	127,509	49,497	177,006
Total	$ 711,391	$ 287,372	$ 998,763	$ 771,060	$ 287,756	$ 1,058,816	$ 768,261	$ 270,908	$ 1,039,169
Sales channels:									
Service provider	$ 128,852	$ 4,465	$ 133,317	$ 156,671	$ 3,624	$ 160,295	$ 190,186	$ 3,268	$ 193,454
Non-service provider	582,539	282,907	865,446	614,389	284,132	898,521	578,075	267,640	845,715
Total	$ 711,391	$ 287,372	$ 998,763	$ 771,060	$ 287,756	$ 1,058,816	$ 768,261	$ 270,908	$ 1,039,169

(1) Prior period amounts have not been adjusted to conform with ASC 606 as the Company adopted ASC 606 under the modified retrospective method.

Note 3. Discontinued Operations

On February 6, 2018, the Company announced that its Board of Directors had unanimously approved the pursuit of a separation of its smart camera business “Arlo” from NETGEAR (the “Separation”) to be effected by way of initial public offering (“IPO”) and spin-off. On August 2, 2018, Arlo Technologies, Inc. (“Arlo”) and NETGEAR announced the pricing of Arlo's initial public offering (“IPO”) at a price to the public of $16.00 per share, subsequently listing on the New York Stock Exchange on August 3, 2018 under the symbol "ARLO". On August 7, Arlo completed the IPO and generated proceeds of approximately $170.2 million, net of offering costs, which Arlo used for its general corporate purposes. Upon completion of the IPO, Arlo common stock outstanding amounted to 74,247,000 shares, of which NETGEAR held 62,500,000 shares, representing approximately 84.2% of the outstanding shares of Arlo common stock. On December 31, 2018, NETGEAR completed the distribution of these 62,500,000 shares of common stock of Arlo (the “Distribution”). After the completion of the Distribution, NETGEAR no longer owns any shares of Arlo common stock. The Distribution took place by way of a pro rata common stock dividend to each NETGEAR stockholder of record on the record date of the Distribution, December 17, 2018, and NETGEAR stockholders received 1.980295 shares of Arlo common stock for every share of NETGEAR common stock held as of the record date.

Upon completion of the Distribution, the Company ceased to own a controlling financial interest in Arlo and Arlo's assets, liabilities, operating results and cash flows for all periods presented have been classified as discontinued operations within the Consolidated Financial Statements.

In connection with Arlo's Separation, the Company incurred Separation expense of $34.2 million since commencing in December 2017. Separation expense primarily consists of third-party advisory, consulting, legal and professional services, IT costs and employee bonuses directly related to the separation, as well as other items that are incremental and one-time in nature that are related to the separation. The majority of these costs are reflected in the Company's consolidated statement of operations as discontinued operations for all periods presented. In addition, in the third fiscal quarter of 2018, the Company contributed $70.0 million in cash to Arlo and provided for, among other things, the transfer from NETGEAR to Arlo of assets and the assumption by Arlo of liabilities comprising its business effected through a master separation agreement between NETGEAR and Arlo. The master separation agreement governs the separation of Arlo's business from NETGEAR as well as various interim arrangements. In connection with these arrangements, during the third and fourth quarter of 2018, NETGEAR recorded a reduction to operating expenses of $6.3 million relating to the transition services, which are reflected in the Company's consolidated statement of operations as discontinued operations for the periods presented. In the third quarter of 2018, NETGEAR provided billing and collection services to Arlo in respect of its trade receivables and trade payments. As of December 31, 2018, NETGEAR had a net liability to Arlo of $12.2 million relating to these transition service, billing and collection services, and the net liability was classified within accounts payable on the consolidated balance sheets. The Company does not expect the amounts relating to such services to be material after the Distribution. Additionally, the Company entered into certain other agreements that provide a framework for the relationship between NETGEAR and Arlo after the separation, including a transition services agreement, a tax matters agreement, an employee matters agreement, an intellectual property rights cross-license agreement, and a registration rights agreement.

The financial results of Arlo through the Distribution date are presented as income (loss) from discontinued operations, net of tax, in the consolidated statements of operations. The following table presents financial results of Arlo:

	Year Ended December 31,	
	2018	2017
	(In thousands)	
Net revenue	$ 464,649	$ 367,751
Cost of net revenue	372,843	279,425
Gross profit	91,806	88,326
Operating expenses:		
Research and development	48,696	22,710
Sales and marketing	39,713	19,490
General and administrative	17,762	691
Separation expense	31,583	1,384
Litigation reserves, net	—	28
Total operating expenses	137,754	44,303
Income (loss) from operations of discontinued operations	(45,948)	44,023
Interest income, net	1,239	—
Other income (expense), net	(41)	467
Income (loss) from discontinued operations before income taxes	(44,750)	44,490
Provision (benefit) for income taxes	(9,095)	13,921
Income (loss) from discontinued operations, net of tax	$ (35,655)	$ 30,569

Note 4. Business Acquisition

Meural Inc.

On August 6, 2018, the Company acquired Meural Inc. ("Meural"), a New York based startup focused on producing and developing hardware and cloud platform capabilities for the digital distribution of curated artwork. Meural aims to provide a premium product to customers and to complement sales of digital canvasses with subscription services by offering customers the ability to subscribe to a large library of curated artworks. The Company believes that the acquisition enables it to enter a new and growing product category focused on consumer lifestyle and enhance its portfolio of hardware and service offerings.

Prior to the business acquisition, the Company had an investment in Meural since 2017. The total purchase consideration was $22.2 million, which consisted of $14.4 million of cash, which was paid in the third quarter of 2018, $1.5 million due to the Company's settlement in its prior equity interest in Meural, and the acquisition date fair value of contingent consideration of $6.3 million.

The merger agreement provides for the payment of contingent consideration to each selling shareholder of Meural based on the achievement of certain technical and service revenue milestones through August 6, 2023, with a maximum payout of $3.5 million on each of two milestones. The valuation of the contingent consideration was derived using estimates of the probability of achievement within specified time periods, in a scenario based model for the technical milestone; and using an option pricing model in a risk neutral framework using a Monte Carlo simulation, based on projections of future service revenues for the service revenue milestone. As of the acquisition date, the fair value of such contingent consideration payable to Meural's external shareholders was determined to be $5.9 million and included in Other non-current liabilities on the consolidated balance sheets. As of December 31, 2019 and 2018, there were no material changes in the range of expected outcomes and the fair value of the contingent consideration from the acquisition date. Refer to Note 14, *Fair Value Measurements* for further details. The acquisition qualified as a business combination and was accounted for using the acquisition method of accounting. The results of Meural have been included in the consolidated financial statements since the date of acquisition. Pro forma results of operations for the acquisition are not presented as the financial impact to the Company's consolidated results of operations is not material.

The purchase price allocation was as follows (in thousands):

Cash and cash equivalents	$	20
Accounts receivable		209
Inventories		760
Prepaid expenses and other current assets		500
Property and equipment		16
Intangibles		4,800
Non-current deferred income taxes		815
Goodwill		16,407
Accounts payable		(1,317)
Other accrued liabilities		(35)
Total	$	22,175

The $16.4 million of goodwill recorded on the acquisition of Meural is not deductible for U.S. federal or U.S. state income tax purposes. The goodwill was generated as a result of the anticipated synergies, expected to be derived through selling Meural's products and services through NETGEAR's established worldwide sales channel and customer base. The goodwill was assigned to the Company's Connected Home segment.

In connection with the acquisition, the Company recorded $0.8 million of deferred tax assets net of deferred tax liabilities. The deferred tax assets were recorded for the tax benefit of the net operating losses as of the date of the acquisition after consideration of limitations on their use under U.S. Internal Revenue Code section 382. The deferred tax assets were reduced by deferred tax liabilities for the book basis of intangible assets for which the Company has no tax basis.

The Company designated $3.0 million of the acquired intangibles as developed technology. The valuation was derived using an income approach, based on the present value of the estimated future cash flows derived from projections of future operations attributable to the developed technology, discounted at a rate of 16.0% and are being amortized over an estimated useful life of seven years.

The Company designated $0.6 million of the acquired intangibles as trade name, $0.6 million as customer relationships and $0.6 million as playlist database. The valuations of these intangibles were derived using variations of the income approach for the trade name and customer relationships, and replacement cost method for the playlist database. The valuations were based on certain key assumptions like the royalty rate, revenue and cash flows derived from projections of future operations and discount rates ranging from 16.0% to 19.0%. The intangible assets are being amortized over estimated useful lives of three years, two years and seven years for trade name, customer relationships and playlist database, respectively.

Note 5. Balance Sheet Components

Available-for-sale short-term investments

	As of							
	December 31, 2019				December 31, 2018			
	Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value	Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
	(In thousands)							
U.S. treasuries	$ —	$ —	$ —	$ —	$ 70,330	$ 1	$ (17)	$ 70,314
Certificates of deposits	149	—	—	149	149	—	—	149
Convertible debt	1,326	—	—	1,326	—	—	—	—
Total	$ 1,475	$ —	$ —	$ 1,475	$ 70,479	$ 1	$ (17)	$ 70,463

The Company’s short-term investments are primarily comprised of marketable and convertible debt securities that are classified as available-for-sale and with an original maturity or remaining maturity at the time of purchase of greater than three months and no more than twelve months. Accordingly, none of the available-for-sale investments have unrealized losses greater than twelve months.

Inventories

	As of	
	December 31, 2019	December 31, 2018
	(In thousands)	
Raw materials	$ 28,871	$ 3,427
Finished goods	206,618	240,444
Total	$ 235,489	$ 243,871

The Company records provisions for excess and obsolete inventory based on assumptions about future demand and market conditions and the amounts incurred were $3.9 million, $2.9 million and $2.9 million for the years ended December 31, 2019, 2018 and 2017, respectively. While management believes the estimates and assumptions underlying its current forecasts are reasonable, there is risk that additional charges may be necessary if current forecasts are greater than actual demand.

Property and equipment, net

	As of	
	December 31, 2019	December 31, 2018
	(In thousands)	
Computer equipment	$ 9,883	$ 9,205
Furniture, fixtures and leasehold improvements	18,623	18,286
Software	27,865	28,065
Machinery and equipment	59,637	60,552
Total property and equipment, gross	116,008	116,108
Accumulated depreciation and amortization	(98,325)	(95,931)
Total	$ 17,683	$ 20,177

Depreciation and amortization expense pertaining to property and equipment was $12.3 million, $10.5 million and $11.5 million for the years ended December 31, 2019, 2018 and 2017, respectively.

Intangibles, net

	As of December 31, 2019			As of December 31, 2018		
	Gross	Accumulated Amortization	Net	Gross	Accumulated Amortization	Net
	(In thousands)					
Technology	$ 59,799	$ (57,406)	$ 2,393	$ 59,799	$ (56,978)	$ 2,821
Customer contracts and relationships	56,800	(50,297)	6,503	56,800	(44,280)	12,520
Other	10,345	(9,137)	1,208	10,345	(8,540)	1,805
Total	$ 126,944	$ (116,840)	$ 10,104	$ 126,944	$ (109,798)	$ 17,146

Amortization of purchased intangibles in the years ended December 31, 2019, 2018 and 2017 was $7.0 million, $8.3 million and $11.0 million, respectively. No impairment charges were recorded in the years ended December 31, 2019, 2018 and 2017.

As of December 31, 2019, estimated amortization expense related to finite-lived intangibles for each of the next five years and thereafter is as follows (in thousands):

2020	$ 6,205
2021	2,044
2022	527
2023	514
2024	514
Thereafter	300
Total estimated amortization expense	$ 10,104

Goodwill

The changes in the carrying amount of goodwill during the years ended December 31, 2019 and 2018 are as follows:

	Connected Home	SMB	Total
	(In thousands)		
As of December 31, 2017	$ 28,035	$ 36,279	$ 64,314
Goodwill from acquisition of Meural	16,407	-	16,407
As of December 31, 2018	$ 44,442	$ 36,279	$ 80,721
As of December 31, 2019	$ 44,442	$ 36,279	$ 80,721

The Company identified the reporting units for the purpose of goodwill impairment testing as Connected Home, and SMB and performed a qualitative test for goodwill impairment of the two reporting units as of the first day of the fourth quarter, or September 30, 2019. Based upon the results of the qualitative testing, the respective fair values of the two reporting units were substantially in excess of these reporting units' carrying values. The Company believes that it is more-likely-than-not that the fair value of these reporting units are greater than their respective carrying values and therefore performing the next step of impairment test for these reporting units was unnecessary. No goodwill impairment was recognized in the years ended December 31, 2019, 2018 or 2017. Accumulated goodwill impairment charges for the years ended December 31, 2019 and 2018, was $74.2 million and $74.2 million, respectively.

Other non-current assets

	As of			
	December 31, 2019		December 31, 2018	
	(In thousands)			
Non-current deferred income taxes	$	58,930	$	57,557
Long-term investments		8,147		2,886
Other		7,202		6,990
Total	$	74,279	$	67,433

Equity investments without readily determinable fair values

The total carrying value of equity investments without readily determinable fair values during the years ended December 31, 2019 and 2018 are as follows (in thousands):

Carrying value, as of December 31, 2017	$	4,505
Additions		1,091
Reclassification of original investment in Meural due to acquisition		(1,500)
Impairment		(1,400)
Upward adjustments for observable price changes		190
Carrying value, as of December 31, 2018		2,886
Additions		5,484
Downward adjustments for observable price changes		(223)
Carrying value, as of December 31, 2019	$	8,147

For the equity investments without readily determinable fair values as of December 31, 2019, cumulative downward adjustments for price changes and impairment was $1.6 million and cumulative upward adjustments for price changes was $0.2 million.

Other accrued liabilities

	As of			
	December 31, 2019		December 31, 2018	
	(In thousands)			
Current operating lease liabilities	$	9,357	$	—
Sales and marketing		85,605		91,548
Warranty obligations		10,556		14,412
Sales returns(1)		52,612		46,318
Freight and duty		5,633		10,586
Other		25,784		36,608
Total	$	189,547	$	199,472

(1) Inventory expected to be received from future sales returns amounted to $26.8 million and $23.8 million as of December 31, 2019 and 2018, respectively. Provisions to write down expected returned inventory to net realizable value amounted to $14.9 million and $14.2 million as of December 31, 2019 and December 31, 2018.

Note 6. Derivative Financial Instruments

The Company's subsidiaries have material future cash flows related to revenue and expenses denominated in currencies other than the U.S. dollar, the Company's functional currency worldwide. The Company executes currency forward contracts that typically mature in less than 6 months to mitigate its currency risk, in currencies including Australian dollars, British pounds, euros, Canadian dollar, and Japanese yen. The Company does not enter into derivatives transactions for trading or speculative purposes.

The Company's foreign currency forward contracts do not contain any credit-risk-related contingent features. The Company enters into derivative contracts with high-quality financial institutions and limits the amount of credit exposure to any individual counter-party. The Company continuously evaluates the credit quality of its counter-party financial institutions and does not consider non-performance a material risk.

The Company may choose not to hedge certain foreign exchange exposures for a variety of reasons, including, but not limited to, materiality, accounting considerations or the prohibitive economic cost of hedging particular exposures. There can be no assurance the hedges will offset more than a portion of the financial impact resulting from movements in foreign exchange rates. The Company's accounting policies for these instruments are based on whether the instruments are designated as hedge or non-hedge instruments in accordance with the authoritative guidance for derivatives and hedging. The Company records all derivatives on the balance sheets at fair value. Cash flow hedge gains and losses are recorded in other comprehensive income ("OCI") until the hedged item is recognized in earnings. Derivatives that are not designated as hedging instruments are adjusted to fair value through earnings in Other income (expense), net in the consolidated statements of operations.

Cash flow hedges

To help manage the exposure of operating margins to fluctuations in foreign currency exchange rates, the Company hedges a portion of its anticipated foreign currency revenue, costs of revenue and certain operating expenses. These hedges are designated at the inception of the hedge relationship as cash flow hedges under the authoritative guidance for derivatives and hedging. Effectiveness of the hedge relationships are tested at least quarterly both prospectively and retrospectively using regression analysis to ensure that the hedge relationship has been effective and is likely to remain effective in the future. The Company typically executes ten forward contracts per quarter with maturities under six months and with USD notional amounts less than $6.0 million each that are designated as cash flow hedges.

The Company expects to reclassify to earnings all of the amounts recorded in OCI associated with its cash flow hedges over the next twelve months. OCI associated with cash flow hedges of foreign currency revenue, cost of revenue and operating expenses are recognized in the same period and in the same line item in the statement of operations as hedged item. The Company did not recognize any material net gains or losses related to anticipated transactions that failed to occur during the year ended December 31, 2019, 2018 and 2017.

Non-designated hedges

The Company enters into non-designated hedges under the authoritative guidance for derivatives and hedging to manage the exposure of non-functional currency monetary assets and liabilities not already hedged by de-designated cash flow hedges. The non-designated hedges are generally expected to offset the changes in value of its net non-functional currency asset and liability position resulting from foreign exchange rate fluctuations. The Company adjusts its non-designated hedges monthly and typically executes about ten non-designated forwards per quarter with maturities less than three months and a USD notional amount generally less than $2.0 million.

Fair Value of Derivative Instruments

The fair values of the Company's derivative instruments and the line items on the consolidated balance sheets to which they were recorded as of December 31, 2019, and 2018, are summarized as follows:

	Balance Sheet Location	December 31, 2019	December 31, 2018	Balance Sheet Location	December 31, 2019	December 31, 2018
		(In thousands)			(In thousands)	
Derivatives not designated as hedging instruments	Prepaid expenses and other current assets	$ 109	$ 784	Other accrued liabilities	$ 493	$ 331
Derivatives designated as hedging instruments	Prepaid expenses and other current assets	43	2	Other accrued liabilities	32	37
Total		$ 152	$ 786		$ 525	$ 368

Refer to Note 14, *Fair Value Measurements,* in Notes to Consolidated Financial Statements for detailed disclosures regarding fair value measurements in accordance with the authoritative guidance for fair value measurements and disclosures.

Offsetting Derivative Assets and Liabilities

The Company has entered into master netting arrangements which allow net settlements under certain conditions. Although netting is permitted, it is currently the Company's policy and practice to record all derivative assets and liabilities on a gross basis on the consolidated balance sheets. As of December 31, 2019, the Company holds and reports $0.5 million of gross liabilities and $0.2 million of gross assets, net of offset, the Company holds $0.3 million of liabilities and no assets.

Effect of Derivative Contracts on Consolidated Statement of Operations and Accumulated Other Comprehensive Income

The effect of the Company's derivative instruments on AOCI and the consolidated statements of operations for the years ended December 31, 2019, 2018 and 2017 are summarized as follows:

	Year Ended December 31, 2019		
	2019	2018	2017
Derivatives designated as hedging instruments:			
Cash flow hedges			
Foreign currency forward contracts:			
Gains (Losses) recognized in other comprehensive income- Effective Portion	$ 1,565	$ 1,416	$ (7,785)
Gains (Losses) reclassified from accumulated other comprehensive income into Income - Effective Portion (1):			
Net revenue	$ 1,929	$ 665	$ (5,786)
Cost of revenue	$ (12)	$ (9)	$ 18
Research and development	$ (57)	$ 83	$ 130
Sales and marketing	$ (284)	$ (102)	$ 788
General and administrative	$ (41)	$ (53)	$ 133
Derivatives not designated as hedging instruments:			
Gains (Losses) recognized in Other income (expense), net	$ 1,307	$ 3,870	$ (5,085)

(1) Refer to Note 11, *Stockholders' Equity*, which summarizes the accumulated other comprehensive income activity related to derivatives.

Note 7. Net Income (Loss) Per Share

Basic net income (loss) per share is computed by dividing the net income (loss) for the period by the weighted average number of common shares outstanding during the period. Diluted net income (loss) per share is computed by dividing the net income for the period by the weighted average number of shares of common stock and potentially dilutive common stock outstanding during the period. Potentially dilutive common shares include common shares issuable upon exercise of stock options, vesting of restricted stock awards, and issuances of shares under the Employee Stock Purchase Plan (the "ESPP"), which are reflected in diluted net income per share by application of the treasury stock method. Potentially dilutive common shares are excluded from the computation of diluted net income per share when their effect is anti-dilutive.

Net income (loss) per share for the years ended December 31, 2019, 2018 and 2017 was as follows:

	Year Ended December 31, 2019	2018	2017
	(In thousands, except per share data)		
Numerator:			
Net income (loss) from continuing operations	$ 25,791	$ 17,326	$ (11,133)
Net income (loss) from discontinued operations	—	(35,655)	30,569
Net income (loss)	25,791	(18,329)	19,436
Less: Net loss attributable to non-controlling interest in discontinued operations	—	(9,167)	—
Net income (loss) attributable to NETGEAR, Inc.	$ 25,791	$ (9,162)	$ 19,436
Denominator:			
Weighted average common shares - basic	30,936	31,626	32,097
Potentially dilutive common share equivalent	1,029	1,511	—
Weighted average common shares - dilutive	31,965	33,137	32,097
Basic net income (loss) per share			
Net income (loss) from continuing operations	$ 0.83	$ 0.55	$ (0.35)
Net income (loss) from discontinued operations attributable to NETGEAR, Inc.	—	(0.84)	0.96
Net income (loss) attributable to NETGEAR, Inc.	$ 0.83	$ (0.29)	$ 0.61
Diluted net income (loss) per share			
Net income (loss) from continuing operations	$ 0.81	$ 0.52	$ (0.35)
Net income (loss) from discontinued operations attributable to NETGEAR, Inc.	—	(0.80)	0.96
Net income (loss) attributable to NETGEAR, Inc.	$ 0.81	$ (0.28)	$ 0.61
Anti-dilutive employee stock-based awards, excluded	1,066	815	279

Note 8. Other Income (Expense), Net

Other income (expense), net consisted of the following:

	Year Ended December 31, 2019	2018	2017
Foreign currency transaction gain (loss), net	$ (697)	$ (2,675)	$ 5,292
Foreign currency contract gain (loss), net	1,307	3,968	(3,879)
Other	234	(783)	144
Total	$ 844	$ 510	$ 1,557

Note 9. Income Taxes

Income before income taxes and the provision for income taxes consisted of the following:

	Year Ended December 31, 2019	2018	2017
	(In thousands)		
United States	$ 16,035	$ 32,237	$ 36,461
International	13,536	10,967	9,763
Total	$ 29,571	$ 43,204	$ 46,224

	Year Ended December 31, 2019	2018	2017
	(In thousands)		
Current:			
U.S. Federal	$ 4,761	$ (587)	$ 25,733
State	791	(2,338)	2,435
Foreign	(386)	4,267	1,545
	5,166	1,342	29,713
Deferred:			
U.S. Federal	(574)	20,930	27,936
State	104	2,514	190
Foreign	(916)	1,092	(482)
	(1,386)	24,536	27,644
Total	$ 3,780	$ 25,878	$ 57,357

Net deferred tax assets consisted of the following:

	Year Ended December 31, 2019	2018
	(In thousands)	
Deferred Tax Assets:		
Accruals and allowances	$ 20,743	$ 20,765
Net operating loss carryforwards	1,267	1,673
Stock-based compensation	6,381	5,734
Deferred rent	—	1,296
Operating lease liability	6,456	—
Deferred revenue	1,449	1,100
Tax credit carryforwards	896	1,661
Acquired intangibles	31,708	31,902
Depreciation and amortization	1,639	866
Other	1,080	—
Total deferred tax assets	71,619	64,997
Deferred Tax Liabilities:		
Right of use asset	(5,218)	—
Other	(1,053)	(706)
Total deferred tax liabilities	(6,271)	(706)
Valuation Allowance(1)	(6,418)	(6,734)
Net deferred tax assets	$ 58,930	$ 57,557

(1) Valuation allowance is presented gross. The valuation allowance net of the federal tax effect is $5.2 million and $5.4 million for the years ended December 31, 2019 and 2018, respectively.

Management's judgment is required in determining the Company's provision for income taxes, its deferred tax assets and any valuation allowance recorded against its deferred tax assets. As of December 31, 2019, a valuation allowance of $6.4 million was placed against California deferred tax assets and certain federal tax attributes since the recovery of the assets is uncertain. There was a valuation allowance of $6.7 million placed against deferred tax assets as of December 31, 2018. Accordingly, the valuation allowance decreased $0.3 million during 2019. In management's judgment it is more likely than not that the remaining deferred tax assets will be realized in the future as of December 31, 2019, and as such no valuation allowance has been recorded against the remaining deferred tax assets.

The effective tax rate differs from the applicable U.S. statutory federal income tax rate as follows:

	Year Ended December 31,		
	2019	2018	2017
Tax at federal statutory rate	21.0%	21.0%	35.0%
State, net of federal benefit	2.4%	1.5%	1.0%
Impact of international operations	(0.8%)	1.9%	(8.8)%
Stock-based compensation	10.7%	(0.3)%	(3.9)%
Tax credits	(5.9)%	(2.6)%	(2.0)%
Valuation allowance	0.9%	1.4%	—%
Impact of the Tax Act	—%	(15.4)%	104.6%
Base Erosion Anti-Abuse Tax	7.2%	—%	—%
Write-off of future tax benefits related to Arlo	—%	52.2%	—%
Transaction costs	(2.5%)	—%	—%
Recognition of previously unrecognized tax benefits	(20.6%)	—%	—%
Others	0.4%	0.2%	(1.8)%
Provision for income taxes	12.8%	59.9%	124.1%

On January 1, 2017, the Company adopted ASU 2016-09, "Improvements to Employee Share-Based Payment Accounting" (Topic 718) upon which all income tax benefits are recorded in income tax expense. As a result of changes in fair value of available-for-sale securities and foreign currency hedging, income tax (provision) benefits of $(0.01) million, $(0.1) million, and $0.4 million were recorded in comprehensive income related to the years ended December 31, 2019, 2018, and 2017, respectively.

As of December 31, 2019, the Company has approximately $6.0 million of acquired federal net operating loss carry forwards as well as $0.9 million of California tax credits carryforwards. All of the losses are subject to annual usage limitations under Internal Revenue Code Section 382. The federal losses expire in different years beginning in fiscal 2021. The California tax credit carryforwards have no expiration.

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (the “Tax Act”) was signed into law making significant changes to the Internal Revenue Code. Changes include, but are not limited to, a corporate tax rate decrease from 35% to 21% effective for tax years beginning after December 31, 2017, the transition of U.S international taxation from a worldwide tax system to a territorial system, and a one-time transition tax on the mandatory deemed repatriation of cumulative foreign earnings as of December 31, 2017.

On December 22, 2017, Staff Accounting Bulletin No. 118 ("SAB 118") was issued to address the application of US GAAP in situations when a registrant does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. In accordance with SAB 118, the Company recorded a provisional income tax expense of $48.3 million in the fourth fiscal quarter of 2017, the period in which the legislation was enacted. The provisional estimate included $26.6 million related to the re-measurement of its net deferred tax assets at a U.S. federal statutory rate that was reduced from 35% to 21%, and $21.7 million related to the transition tax on the mandatory deemed repatriation of foreign earnings.

The Company completed its analysis of the impact of U.S. Tax Reform in the fourth quarter of 2018. The Company completed the computation of the transition tax as part of the 2017 income tax returns filing and reduced the provisional amount by $6.7 million. The Company elected to pay the liability for the transition tax on the mandatory deemed repatriation of foreign earnings in installments. As of December 31, 2019 and December 31, 2018, $6.5 million and $6.5 million of the transition tax related liability was included in non-current income taxes payable on our consolidated balance sheet.

In addition, certain new complex tax rules related to the taxation of foreign earnings (Global Intangible Low-Taxed Income “GILTI”, Foreign Derived Intangible Income “FDII” and Base Erosion and Anti-abuse Tax “BEAT”) became effective as of January 1, 2018. The GILTI provision imposes taxes on foreign earnings in excess of a deemed return on tangible assets. The Company made the accounting policy election to record the GILTI tax in the period it occurs. The Company has evaluated these provisions and recorded a detriment of $1.7 million, in relation to GILTI, FDII and BEAT for the year ended December 31, 2019.

The Company files income tax returns in the U.S. federal jurisdiction and various state, local, and foreign jurisdictions. With few exceptions, the Company is no longer subject to U.S. federal, state, or local income tax examinations for years before 2014. The Company is no longer subject to foreign income tax examinations before 2004. The Italian Tax Authority (ITA) has audited the Company’s 2004 through 2012 tax years. The Company is currently in litigation with the ITA with respect to all of these years. During 2019, the German Tax Authority (GTA) concluded a broad based audit of fiscal years 2014 through 2016, which covered income tax, trade tax, payroll tax, and VAT tax. Formal notification was received with no changes to the corporate income or trade tax liability related to the years under examination by the German Tax Authority. Accordingly, we have released all associated tax liabilities previously reserved. During 2016, the United Kingdom HMRC (Her Majesty’s Revenue and Customs) initiated an audit of the Company’s 2014 and 2015 tax years. They subsequently added the 2016 and 2017 years to their query. In the third quarter of 2019, the Company settled the dispute with HMRC. The Company released the associated net reserves and paid the final assessment in November, 2019. Additionally, in December, 2017 the French Tax Authority commenced an audit of the Company’s 2015 and 2016 tax years. During the first quarter of 2019, the audit was settled with no changes to Income tax. Accordingly, the Company released the associated tax reserves. The Company has limited audit activity in various states and other foreign jurisdictions. Due to the uncertain nature of ongoing tax audits, the Company has recorded its liability for uncertain tax positions as part of its long-term liability as payments cannot be anticipated over the next 12 months. The existing tax positions of the Company continue to generate an increase in the liability for uncertain tax positions. The liability for uncertain tax positions may be reduced for liabilities that are settled with taxing authorities or on which the statute of limitations could expire without assessment from tax authorities. The possible reduction in liabilities for uncertain tax positions resulting from the expiration of statutes of limitation in multiple jurisdictions in the next 12 months is approximately $0.6 million, excluding the interest, penalties and the effect of any related deferred tax assets or liabilities.

A reconciliation of the beginning and ending amount of gross unrecognized tax benefits ("UTB") is as follows:

	Federal, State, and Foreign Tax
	(In thousands)
Balance as of December 31, 2016	$ 12,965
Additions based on tax positions related to the current year	938
Additions for tax positions of prior years	32
Reductions for tax positions of prior years	(1,477)
Reductions due to lapse of applicable statutes	(899)
Adjustments due to foreign exchange rate movement	1,008
Balance as of December 31, 2017	$ 12,567
Additions based on tax positions related to the current year	637
Additions for tax positions of prior years	280
Reductions for tax positions of prior years	(116)
Reductions due to lapse of applicable statutes	(999)
Adjustments due to foreign exchange rate movement	(386)
Balance as of December 31, 2018	$ 11,983
Additions based on tax positions related to the current year	385
Additions for tax positions of prior years	996
Settlements	(705)
Reductions for tax positions of prior years	(3,440)
Reductions due to lapse of applicable statutes	(609)
Adjustments due to foreign exchange rate movement	459
Balance as of December 31, 2019	$ 9,069

The total amount of net UTB that, if recognized would affect the effective tax rate as of December 31, 2019 is $6.7 million. The ending net UTB results from adjusting the gross balance at December 31, 2019 for items such as U.S. federal and state deferred tax, interest, and deductible taxes. The net UTB is included as a component of non-current income taxes payable within the consolidated balance sheets.

The Company recognizes interest and penalties accrued related to unrecognized tax benefits in income tax expense. During the years ended December 31, 2019, 2018, and 2017, total interest and penalties expensed were $(1.4) million, $0.1 million, and $(0.4) million, respectively. As of December 31, 2019 and 2018, accrued interest and penalties on a gross basis was $2.0 million, and $3.4 million, respectively. Included in accrued interest are amounts related to tax positions for which the ultimate deductibility is highly certain but for which there is uncertainty about the timing of such deductibility.

The Company has not provided deferred taxes on earnings of $5.1 million of undistributed earnings of foreign subsidiaries that are indefinitely reinvested outside of the U.S. The Company estimates that if these earnings were repatriated to the U.S., it would result in approximately $1.1 million in associated tax without consideration of foreign tax credits. Determination of foreign tax credit limitations depends on a number of factors which cannot be estimated.

Note 10. Commitments and Contingencies

Purchase Obligations

The Company has entered into various inventory-related purchase agreements with suppliers. Generally, under these agreements, 50% of orders are cancelable by giving notice 46 to 60 days prior to the expected shipment date and 25% of orders are cancelable by giving notice 31 to 45 days prior to the expected shipment date. Orders are non-cancelable within 30 days prior to the expected shipment date. For those orders not governed by master purchase agreements, the commitments are governed by the commercial terms on the Company's purchase orders subject to acknowledgment from its suppliers. As of December 31, 2019, the Company had approximately $85.3 million in non-cancelable purchase commitments with suppliers. The Company establishes a loss liability for all products it does not expect to sell for which it has committed purchases from suppliers. Such losses have not been material to date. From time to time, the Company's suppliers procure unique complex components on the Company's behalf. If these components do not meet specified technical criteria or are defective, the Company should not be obligated to purchase the materials. However, disputes may arise as a result and significant resources may be spent resolving such disputes.

Non-Trade Commitments

As of December 31, 2019, the Company had long term, non-cancellable purchase commitments of $17.4 million pertaining to non-trade activities.

Warranty Obligations

Changes in the Company's warranty obligations, which is included in Other accrued liabilities on the consolidated balance sheets, were as follows:

	Year Ended December 31,		
	2019	2018	2017
Balance as of beginning of the period	$ 14,412	$ 44,068	$ 42,571
Reclassified to sales returns upon adoption of ASC 606	—	(29,147) (1)	—
Provision for warranty liability made during the period	7,050	12,783	91,384
Settlements made during the period	(10,906)	(13,292)	(89,887)
Balance at end of period	$ 10,556	$ 14,412	$ 44,068

(1) Upon adoption of ASC 606 on January 1, 2018, certain warranty reserve balances totaling $29.1 million were reclassified to sales returns as these liabilities are payable to the Company's customers and settled in cash or by credit on account. Under ASC 606, these amounts are to be accounted for as sales with right of return.

Guarantees and Indemnifications

The Company, as permitted under Delaware law and in accordance with its Bylaws, indemnifies its officers and directors for certain events or occurrences, subject to certain limits, while the officer or director is or was serving at the Company's request in such capacity. The term of the indemnification period is for the officer's or director's lifetime. The maximum amount of potential future indemnification is unlimited; however, the Company has a Director and Officer Insurance Policy that enables it to recover a portion of any future amounts paid. As a result of its insurance policy coverage, the Company believes the fair value of each indemnification agreement is minimal. Accordingly, the Company has no liabilities recorded for these agreements as of December 31, 2019.

In its sales agreements, the Company typically agrees to indemnify its direct customers, distributors and resellers (the "Indemnified Parties") for any expenses or liability resulting from claimed infringements by the Company's products of patents, trademarks or copyrights of third parties that are asserted against the Indemnified Parties, subject to customary carve outs. The terms of these indemnification agreements are generally perpetual after execution of the agreement. The maximum amount of potential future indemnification is generally unlimited. From time to time, the Company receives requests for indemnity and may choose to assume the defense of such litigation asserted against the Indemnified Parties. The Company believes the estimated fair value of these agreements is minimal. Accordingly, the Company has no liabilities recorded for these agreements as of December 31, 2019.

Employment Agreements

The Company has signed various change in control and severance agreements with key executives. Upon a termination without cause or resignation with good reason, executive officers would be entitled to (1) cash severance equal to the executive officer's annual base salary, and, for the Chief Executive Officer, an additional amount equal to his target annual bonus, (2) 12 months of health benefits continuation and (3) accelerated vesting of any unvested equity awards that would have vested during the 12 months following the termination date. Upon a termination without cause or resignation with good reason that occurs during the one month prior to or 12 months following a change in control of the Company, executive officers would be entitled to (1) cash severance equal to a multiple (2x for the Chief Executive Officer and 1x for all other executive officers) of the sum of the executive officer's annual base salary and target annual bonus, (2) a number of months (24 for the Chief Executive Officer and 12 for other executive officers) of health benefits continuation and (3) accelerated vesting of all outstanding, unvested equity awards. Severance is conditioned upon the execution and non-revocation of a release of claims. The change in control and severance agreements do not provide for any excise tax gross ups. If the merger-related payments or benefits of the executive officer are subject to the 20% excise tax under Section 4999 of the tax code, then the executive officer will either receive all such payments and benefits subject to the excise tax or such payments and benefits will be reduced so that the excise tax does not apply, whichever approach yields the best after-tax outcome for the executive officer. The Company had no liabilities recorded for these agreements as of December 31, 2019.

Litigation and Other Legal Matters

The Company is involved in disputes, litigation, and other legal actions, including, but not limited to, the matters described below. In all cases, at each reporting period, the Company evaluates whether or not a potential loss amount or a potential range of loss is probable and reasonably estimable under the provisions of the authoritative guidance that addresses accounting for contingencies. In such cases, the Company accrues for the amount, or if a range, the Company accrues the low end of the range, only if there is not a better estimate than any other amount within the range, as a component of legal expense within litigation reserves, net. The Company monitors developments in these legal matters that could affect the estimate the Company had previously accrued. In relation to such matters, the Company currently believes that there are no existing claims or proceedings that are likely to have a material adverse effect on its financial position within the next twelve months, or the outcome of these matters is currently not determinable. There are many uncertainties associated with any litigation, and these actions or other third-party claims against the Company may cause the Company to incur costly litigation and/or substantial settlement charges. In addition, the resolution of any intellectual property litigation may require the Company to make royalty payments, which could have an adverse effect in future periods. If any of those events were to occur, the Company's business, financial condition, results of operations, and cash flows could be adversely affected. The actual liability in any such matters may be materially different from the Company's estimates, which could result in the need to adjust the liability and record additional expenses.

Agenzia Entrate Provincial Revenue Office 1 of Milan v. NETGEAR International, Inc.

In November 2012, the Italian tax police began a comprehensive tax audit of NETGEAR International, Inc.’s Italian Branch. The scope of the audit initially was from 2004 through 2011 and was subsequently expanded to include 2012. The tax audit encompassed Corporate Income Tax (IRES), Regional Business Tax (IRAP) and Value-Added Tax (VAT). In December 2013, December 2014, August 2015, and December 2015 an assessment was issued by Inland Revenue Agency, Provincial Head Office No. 1 of Milan-Auditing Department (Milan Tax Office) for the 2004 tax year, the 2005 through 2007 tax years, the 2008 through 2010 tax years, and the 2011 through 2012 tax years, respectively.

In May 2014, the Company filed with the Provincial Tax Court of Milan an appeal brief, including a Request for Hearing in Open Court and Request for Suspension of the Tax Assessment for the 2004 year. The hearing was held and decision was issued on December 19, 2014. The Tax Court decided in favor of the Company and nullified the assessment by the Inland Revenue Agency for 2004. The Inland Revenue Agency appealed the decision of the Tax Court on June 12, 2015. The Company filed its counter appeal with respect to the 2004 year during September 2015. On February 26, 2016, the Regional Tax Court conducted the appeals hearing for the 2004 year, ruling in favor of the Company. On June 13, 2016, the Inland Revenue Agency appealed the decision to the Supreme Court. The Company filed a counter appeal on July 23, 2016 and is awaiting scheduling of the hearing.

In June 2015, the Company filed with the Provincial Tax Court of Milan an appeal brief including a Request for Hearing in Open Court and Request for Suspension of the Tax Assessment for the 2005 through 2006 tax years. The hearing for suspension was held and the Request for Suspension of payment was granted. The hearing for the validity of the tax assessment for 2005 and 2006 was held in December 2015 with the Provincial Tax Court issuing its decision in favor of the Company. The Inland Revenue Agency filed its appeal with the Regional Tax Court. The Company filed its counter brief on September 30, 2016 and the hearing was held on March 22, 2017. A decision favorable to the Company was issued by the Court on July 5, 2017. The Italian Tax Authority has appealed the decision to the Supreme Court and the Company has responded with a counter appeal brief on December 3, 2017 and awaits scheduling of the hearing.

The hearing for the validity of the tax assessment for 2007 was held on March 10, 2016 with the Provincial Tax Court who issued its decision in favor of the Company on April 7, 2016. The Inland Revenue Agency has filed its appeal to the Regional Tax Court and the Company has submitted its counter brief. The hearing was held on November 17, 2017 and the Company received a positive decision on December 11, 2017. On June 11, 2018, the Italian government filed its appeal brief with the Supreme Court, and the Company filed its counter brief on July 12, 2018 and awaits scheduling the hearing.

With respect to 2008 through 2010, the Company filed its appeal briefs with the Provincial Tax Court in October 2015 and the hearing for the validity of the tax assessments was held on April 21, 2016. A decision favorable to the Company was issued on May 12, 2016. The Inland Revenue Agency has filed its appeal to the Regional Tax Court. The Company filed its counter brief on February 5, 2017. The hearing was held on May 21, 2018, and the Company received a favorable decision on June 12, 2018. On October 14, 2019, Milan Tax Office filed an appeal with the Supreme Court. The Company filed its counter brief with the Supreme Court on November 22, 2019 and awaits scheduling of the hearing.

With respect to 2011 through 2012, the Company has filed its appeal brief on February 26, 2016 with the Provincial Tax Court to contest the relevant tax assessments. The hearing for suspension was held and the Request for Suspension of payment was granted. On October 13, 2016, the Company filed its final brief with the Provincial Tax Court. The hearing was held on October 24, 2016 and a decision favorable to the Company was issued by the Court. The Inland Revenue Agency appealed the decision before the Regional Tax Court. The Regional Tax Court heard the case on February 26, 2019 for both years and issued a decision favorable to the Company on March 11, 2019. On October 14, 2019, Milan Tax Office filed an appeal with the Supreme Court. The Company filed its counter brief with the Supreme Court on November 22, 2019.

With regard to all tax years, it is too early to reasonably estimate any financial impact to the Company resulting from this litigation matter.

Via Vadis v. NETGEAR, Inc.

On August 22, 2014, the Company was sued by Via Vadis, LLC and AC Technologies, S.A. (“Via Vadis”), in the Western District of Texas. The complaint alleges that the Company’s ReadyNAS and Stora products “with built-in BitTorrent software" allegedly infringe three related patents of Via Vadis (U.S. Patent Nos. 7,904,680, RE40, 521, and 8,656,125). Via Vadis filed similar complaints against Belkin, Buffalo, Blizzard, D-Link, and Amazon.

By referring to “built-in BitTorrent software,” the Company believes that the complaint is referring to the BitTorrent Sync application, which was released by BitTorrent Inc. in spring of 2014. At a high-level, the application allows file synchronization across multiple devices by storing the underlying files on multiple local devices, rather than on a centralized server. The Company’s ReadyNAS products do not include BitTorrent software when sold. The BitTorrent application is provided as one of a multitude of potential download options, but the software itself is not included on the Company’s devices when shipped. Therefore, the only viable allegation at this point is an indirect infringement allegation.

On November 10, 2014, the Company answered the complaint denying that it infringes the patents in suit and also asserting the affirmative defenses that the patents in suit are invalid and barred by the equitable doctrines of laches, waiver, and/or estoppel.

On February 6, 2015, the Company filed its motion to transfer venue from the Western District of Texas to the Northern District of California with the Court; on February 13, 2015, Via Vadis filed its opposition to the Company’s motion to transfer; and on February 20, 2015, the Company filed its reply brief on its motion to transfer. In early April 2015, the Company received the plaintiff’s infringement contentions, and on June 12, 2015, the defendants served invalidity contentions. On July 30, 2015, the Court granted the Company’s motion to transfer venue to the Northern District of California. In addition, the Company learned that Amazon and Blizzard filed petitions for the inter partes reviews (“IPRs”) for the patents in suit. On October 30, 2015, the Company and Via Vadis filed a joint stipulation requesting that the Court vacate all deadlines and enter a stay of all proceedings in the case pending the Patent Trial and Appeal Board’s final non-appealable decision on the IPRs initiated by Amazon and Blizzard. On November 2, 2015, the Court granted the requested stay. On March 8, 2016, the Patent Trial and Appeal Board issued written decisions instituting the IPRs jointly filed by Amazon and Blizzard. In early March of 2017, The Patent Trial and Appeal Board (PTAB) issued various decisions regarding Amazon’s and Blizzard’s IPRs of the patents in suit. One of the IPRs of the '125 patent resulted in a finding by the PTAB that Amazon and Blizzard had had failed to show invalidity.

The second IPR on the '125 patent, however, resulted in cancellation of all claims asserted in Via Vadis's suit against the Company. Reissue '521 did not have any claims found invalid by the PTAB, and some dependent claims of the '680 patent survived the IPRs, and some claims of the '680 patent were canceled. Via Vadis has completed its appeal of the PTAB decisions on the IPRs, which were affirmed by the Federal Circuit. Meanwhile, the W.D. Texas Court issued a claim construction order finding the '680 patent indefinite. The parties in the W.D. of Texas case lifted their stay and Via Vadis filed a motion for reconsideration of the Court's finding of indefiniteness, which the Court has denied.

On August 8, 2019, Via Vadis filed its notice of appeal to the Federal Circuit in the W.D. Texas cases. The Company's case in N.D. California will remain stayed during the pendency of the appeal.

It is too early to reasonably estimate any financial impact to the Company resulting from this litigation matter.

Chrimar Systems, Inc. v NETGEAR, Inc.

On July 1, 2015, the Company was sued by a non-practicing entity named Chrimar Systems, Inc., doing business as CMS Technologies and Chrimar Holding Company, LLC (collectively, "CMS"), in the Eastern District of Texas for allegedly infringing four patents-U.S. Patent Nos. 8,155,012 (the "'012 Patent"), entitled "System and method for adapting a piece of terminal equipment"; 8,942,107 (the "'107 Patent"), entitled "Piece of ethernet terminal equipment"; 8,902,760 (the "'760 Patent"), entitled "Network system and optional tethers"; and 9,019,838 (the "'838 Patent"), entitled "Central piece of network equipment" (collectively "patents-in-suit").

The patents-in-suit relate to using or embedding an electrical DC current or signal into an existing Ethernet communication link in order to transmit additional data about the devices on the communication link, and the specifications for the patents are identical. It appears that CMS has approximately 40 active cases in the Eastern District of Texas, as well as some cases in the Northern District of California on the patents-in-suit and the parent patent to the patents-in-suit.

The Company answered the complaint on September 15, 2015. On November 24, 2015, CMS served its infringement contentions on the Company, and CMS is generally attempting to assert that the patents in suit cover the Power over Ethernet standard (802.3af and 802.3at) used by certain of the Company's products.

On December 3, 2015, the Company filed with the Court a motion to transfer venue to the District Court for the Northern District of California and their memorandum of law in support thereof. On December 23, 2015, CMS filed its response to the Company's motion to transfer, and, on January 8, 2016, the Company filed its reply brief in support of its motion to transfer venue. On January 15, 2016, the Court granted the Company's motion to transfer venue to the District Court for the Northern District of California. The initial case management conference in the Northern District of California occurred on May 13, 2016, and on August 19, 2016, the parties exchanged preliminary claim constructions and extrinsic evidence. On August 26, 2016, the Company and three defendants in other Northern District of California CMS cases (Juniper Networks, Inc., Ruckus Wireless, Inc., and Fortinet, Inc.) submitted motions to stay their cases. The defendants in part argued that stays were appropriate pending the resolution of the currently-pending IPRs of the patents-in-suit before the Patent Trial and Appeal Board (PTAB), including four IPR Petitions filed by Juniper. On September 9, 2016, CMS submitted its opposition to the motions to stay the cases. On September 26, 2016, the Court ordered the cases stayed in their entirety, until the PTAB reaches institution decisions with respect to Juniper's four pending IPR petitions. Juniper's four IPR petitions were instituted by the PTAB in January 2017, and the Company subsequently moved to join the IPR petitions as an "understudy" to Juniper, only assuming a more active role in the petitions in the event Juniper settles with CMS. For all four patents in suit against the Company, the PTAB ordered that (a) the Petitioners' (the Company, Ruckus, and Brocade) Motion for Joinder to the Juniper IPRs is granted; (b) the Petitioners IPRs are instituted on the same grounds as in the Juniper 'IPRs and Petitioners are joined with the Juniper IPRs; and (c) all further filings by Petitioners in the joined proceedings will be in the Juniper IPRs. On December 21, 2017, the PTAB issued the first of the four Final Written Decisions in the IPRs filed by the Company on the patents in suit, ruling that the claims of the '107 Patent asserted by Chrimar were invalid. This was quickly followed by two more Final Written Decisions -- on January 3, 2018, the '838 patent's asserted claims were ruled invalid, and on January 23, 2018 the '012 patent's asserted claims were ruled invalid. Chrimar has 30 days from each Final Written Decision to seek a rehearing at the PTAB and 63 days from each to file an appeal. On April 26, 2018, the PTAB issued its decision invalidating all of the claims of the '760 patent challenged in the IPR. The PTAB's reasoning was similar to the reasoning set forth in the PTAB's previous decisions on the 012, 107 and 838 patents. The ‘760 patent claims were, however, amended by Chrimar during the pendency of the ‘760 IPR, and the PTAB did not rule on the validity of the amended claims, as they were not challenged in the original IPR Petitions (they couldn’t have been because the Chrimar amendments had not yet happened). On June 6, 2018, Chrimar's appeals on all 4 written decisions by the USPTO invalidating all challenged claims were consolidated. The parties have completed briefing the matter and are awaiting schedule for oral argument before the Federal Circuit.

On September 3, 2019, the Company and other defendants conducted their oral argument before the Federal Circuit Court of Appeals. On September 19, 2019, the Federal Circuit affirmed the USPTO’s decisions on defendants’ IPRs invalidating all of the challenged claims.

On December 19, 2019, Chrimar petitioned the Supreme Court to review the Federal Circuit Court’s decision invalidating all of the challenged claims in the IPRs. The Company and co-defendants are awaiting the Supreme Court’s decision on whether to take the case up on appeal. On January 17, 2020, the parties filed a Case Management Conference Statement before the district court in response to a court order, and Chrimar is requesting permission to amend its Complaint to add new patents and new claims that were not previously asserted, including claims that Chrimar amended during an ex parte reexam of the ’760 patent during the pendency of the IPRs. The Court held a case management conference on January 24, 2020 and allowed Plaintiff to file its third amended complaint on February 7, 2020. The Company has until February 28, 2020 to file its answer or motion(s).

It is too early to reasonably estimate any financial impact to the Company resulting from this litigation matter.

Vivato v. NETGEAR, Inc.

On April 19, 2017, the Company was sued by XR Communications (d/b/a) Vivato (“Vivato”) in the United States District Court, Central District of California.

Based on its complaint, Vivato purports to be a research and development and product company in the WiFi area, but it appears that Vivato is not currently a manufacturer of commercial products. The three (3) patents that Vivato asserts against the Company are U.S. Patent Nos. 7,062,296, 7,729,728, and 6,611,231. The ’296 and ’728 patents are entitled “Forced Beam Switching in Wireless Communication Systems Having Smart Antennas.” The ’231 patent is entitled “Wireless Packet Switched Communication Systems and Networks Using Adaptively Steered Antenna Arrays.” Vivato also has recently asserted the same patents in the Central District of California against D-Link, Ruckus, and Aruba, among others.

According to the complaint, the accused products include WiFi access points and routers supporting MU-MIMO, including without limitation access points and routers utilizing the IEEE 802.11ac-2013 standard. The accused technology is standards-based, and more specifically, based on the transmit beamforming technology in the 802.11ac WiFi standard.

The Company answered an amended complaint on July 7, 2017. In its answer, the Company objected to venue and recited that objection as a specific affirmative defense, so as to expressly reserve the same. The Company also raised several other affirmative defenses in its answer.

On August 28, 2017, the Company submitted its initial disclosures to the plaintiff. The initial scheduling conference was on October 2, 2017, and the Court set five day jury trial for March 19, 2019 for the leading Vivato/D-Link case, meaning the Company’s trial date will be at some point after March 19, 2019.

On March 20, 2018, the Company and other defendants in the various Vivato cases moved the Court to stay the case pending various IPRs filed on all of the patents in suit. Every asserted claim of all three patents-in-suit is now subject to challenge in IPRs that are pending before the U.S. Patent and Trial Appeal Board (“PTAB”). In particular, the Company, Belkin, and Ruckus are filing one set of IPRs on the three patents in suit; Cisco is filing another set of independent IPRs on the three patents in suit; and Aruba is filing yet another set of independent IPRs on the three patents in suit. On April 11, 2018, the Court granted the motion to stay pending filing of the IPRs. On May 3, 2018, the Company and other defendants filed their IPRs. The PTAB instituted the IPRs for the ’296 and ’728 patents, but not the ’231 patent from the Ruckus and Belkin set of petitions. However, the Cisco IPR for the ’231 patent was instituted. Vivato has proposed amendments to its claims and the parties have completed briefing the matter before the PTAB.

In July and August of 2019, the Company and other defendants had two oral arguments before the PTAB regarding the ’296 and ’728 patents. The PTAB denied institution of petition for the’231 Patent. On October 10, 2019, the PTAB issued a Final Written Decision invalidating all of the original claims at issue in the ’296 Patent and denied Vivato’s motion to amend (the claims).

In November 2019, the PTAB issued a Final Written Decision invalidating all of the challenged claims in the ’728 Patent. In the meantime, the PTAB’s Final Written Decision in the Cisco IPR of the’231 Patent found the claims to be valid and Cisco is appealing the finding. The Company anticipates that the Company’s case will remain stayed through Cisco’s appeal.

It is too early to reasonably estimate any financial impact to the Company resulting from this litigation matter.

Hera Wireless v. NETGEAR, Inc.

On July 14, 2017, the Company was sued by Sisvel (via Hera Wireless) in the District of Delaware on three related patents allegedly covering the 802.11n standard. Similar complaints were filed against Amazon, ARRIS, Belkin, Buffalo, and Roku. On December 12, 2017, the Company answered the complaint, denying why each claim limitation of the patents in suit were allegedly met and asserting various affirmative defenses, including invalidity and noninfringement. A proposed joint Scheduling Order was submitted to the Court on January 24, 2018 with trial proposed for March of 2020.

On February 27, 2018, Hera Wireless identified the accused products and the asserted claims, alleging that any 802.11n compliant product infringes, and identified only the Company’s Orbi and WND930 products with particularity. Hera Wireless’ infringement contentions were submitted on April 28, 2018. Discovery is ongoing.

On June 28, 2018, the Company and other defendants submitted invalidity contentions. The Company along with other defendants jointly filed IPRs challenging three of the patents in suit on July 18, 2018. On September 14, 2018, the Company and other defendants jointly filed a second set of IPRs with the USPTO challenging the remaining six patents asserted in the Amended Complaint.

The Patent Trial and Appeal Board (PTAB) has instituted all of the IPRs on the patents-in-suit. On February 3, 2020, the PTAB issued a Final Written Decision, cancelling all claims of U.S. Patent No. 8,934,851. The PTAB also denied Hera’s request to amend the claims in that Patent. PTAB decisions on the other IPR’s will trickle in over the next few months. The district court case remains stayed in the meantime.

It is too early to reasonably estimate any financial impact to the Company resulting from this litigation matter.

Modern Telecom Systems (MTS) v. NETGEAR, Inc.

On August 3, 2018, Plaintiff MTS filed a patent infringement lawsuit against NETGEAR in the District of Delaware. MTS accuses all of NETGEAR’s routers that are compliant with those 802.11 standards of infringing U.S. Patent No. 6,504,886 (“the ’886 Patent”), and specifically identifies NETGEAR’s Nighthawk X10 Smart WiFi Router. The Company filed its Answer on January 4, 2019.

The Company’s case was consolidated with ARRIS / Ruckus and Brother. In March 2019, the Company joined a motion for judgment on the pleadings that the patent-in-suit is invalid under Section 101 led by Arris. The motion remains pending and the claim construction phase of the case is upcoming.

The parties have settled, and the case was dismissed on December 17, 2019 with non-material impact on the Company.

John Pham v. Arlo Technologies, Inc., NETGEAR Inc., et al., and other related actions

On January 9, 2019 and January 10, 2019, February 1, 2019 and February 8, 2019, the Company was sued in four separate securities class action suits in Superior Court of California, County of Santa Clara, along with Arlo Technologies, individuals, and underwriters involved in the spin-off of Arlo. Two more similar state actions have been filed against Arlo Technologies Inc. et al.. In total, six putative class action complaints have now been filed in California state court in Santa Clara County. The Company is named as a defendant in five of the six lawsuits. The complaints generally allege that Arlo's IPO materials contained false and misleading statements, hiding problems with Arlo's Ultra product. These claims are styled as violations of Sections 11, 12(a), and 15 of the Securities Act of 1933.

There is also a putative class action pending in federal court in the Northern District of California, on behalf of the same class of plaintiffs, making very similar claims. The Company is not presently named in the federal action. Defendants filed motions to stay the state court actions in deference to the federal court action. The court held a hearing on April 26, 2019 to consider whether to consolidate the six lawsuits and appoint a "lead plaintiff" and another hearing on May 31, 2019 to consider defendants' motions to stay the state court cases. On June 21, 2019, the California state court judge granted the Company's motion to stay the state court case pending the outcome of the federal case. The case will now proceed only in federal court.

On August 6, 2019, all the defendants, including NETGEAR, filed a motion to dismiss the federal court action. Plaintiffs filed their opposition brief on September 6, 2019 and defendants filed a reply on October 4, 2019. The motion is set for hearing on December 5, 2019. The state court action remains stayed pending the outcome of the federal action.

On November 18, 2019, the parties participated in mediation, but did not settle the case. On December 5, 2019, the court held a hearing on the defendants' motion to dismiss, and on December 19, 2019, granted that motion as to all counts, with leave to amend. The Parties are currently discussing settlement. On February 14, 2020, the Court granted the Parties' stipulation to stay proceedings to permit filing of a motion for preliminary approval for classwide settlement.

It is too early to reasonably estimate any financial impact to the Company resulting from these matters.

China Patent Matters - Beijing and Heifei Municipalities

On or around May 14, 2019, NETGEAR Beijing Network Technology Co. Ltd ("Beijing WOFE") received notice from the Beijing Municipal IP Office (BMIPO) that petitioner Global Innovation Aggregators, a Delaware registered company ("Patentee"), filed two patent infringement complaints against Beijing WOFE, alleging infringement of two patents: China Patent Nos. CN100502338C and CN103138979B. The accused products were certain Company routers sold in China. Patentee alleges that the Dynamic Quality of Service ("QoS") or dynamic bandwidth adjustment and allocation functionality in the routers infringes CN100502338C, and the parental control functionality infringes CN103138979B. The Company hired local counsel who has responded to the Beijing matters and separately filed invalidation actions against both patents.

On or around July 2, 2019, the Company received notice that the Patentee also filed petitions against a NETGEAR reseller, Heifei Wanghang Network Technology Co., Ltd., before the Heifei Municipal IP Office, asserting the same patents against the Company's routers. The Company has filed similar invalidation actions in the Heifei cases and requested that the Heifei IP Office stay the infringement cases pending outcome of the Beijing matters.

On October 12, 2019, the Company attended oral hearings for the infringement and invalidity cases for CN103138979B related to the parental control functionalities before the BMIPO, and the invalidity case for the same patent before the Heifei IPO. The Company has since received a notice that the Plaintiff withdrew the infringement case for Patent CN100502338C related to QoS functionality before the BMIPO. The invalidity cases for the QoS patent before both Beijing and Heifei IPO's remain pending and the Company is awaiting notice(s) for oral hearing(s). The two Heifei infringement cases remain stayed pending resolution of the BMIPO infringement cases.

In October 2019, plaintiff withdrew its infringement case for CN100502338C in Beijing, and in December 2019, it withdrew both infringement cases in Heifei. The only remaining infringement case is the one covering

CN103138979B in Beijing, for which the parties are awaiting BIMPO's decision. In October and November 2019, the Company completed all four of its invalidity hearings on both patents before the Beijing and Heifei IP offices. Decisions on all four cases remain pending in both offices.

It is too early to reasonably estimate any financial impact to the Company resulting from these matters.

Aegis 11 S.A. v. NETGEAR Inc.

On June 21, 2019, Aegis 11 S.A. ("Aegis") sued NETGEAR and several other defendants for patent infringement in the District of Delaware. Aegis asserted that NETGEAR's WiFi routers infringe three patents related to the 802.11 standard: U.S. Patent No. 6,839,553, U.S. Patent No. 9,584,200, and U.S. Patent No. 9,848,443.

In lieu of filing its Answer on October 15, 2019, the Company filed a partial motion to dismiss against one of the asserted claims based on unpatentable subject matter. The Company's Answer will not be due until the motion to dismiss is decided.

It is too early to reasonably estimate any financial impact to the Company resulting from this litigation matter.

Wireless Transport v. NETGEAR Inc.

On July 29, 2019, Wireless Transport. ("Wireless Transport"), a non-practicing entity, sued the Company and other defendants (including Ruckus, Extreme Networks, Proxim Wireless, Aerohive, Alcatel Lucent, and Fortinet) in the District of Delaware. The Complaint asserts that the Company's ProSafe Wireless Access Points and Controllers and the Managed Pro Switches infringe US Pat. No. 6,563,813, entitled "Wireless Transport Protocol" related to a wireless transport protocol for data packets transmitted over a wireless network. The parties have filed a joint motion to stay the case pending discussions regarding possible early resolution of the matter.

The parties have settled, and the case was dismissed on December 10, 2019 with non-material impact on the Company.

Solutioninc v. NETGEAR Inc.

Solutioninc Limited sued the Company, along with several other defendants in the District of Delaware, on December 4, 2019, alleging infringement of U.S. Patent No. 7,526,538, entitled "System using server to provide mobile computer accessing to a different network without reconfiguring the mobile computer." The accused products are the Company's WLAN products, including its ProSafe devices. The Company's answer is due February 28, 2020.

It is too early to reasonably estimate any financial impact to the Company resulting from this litigation matter.

Sockeye v. NETGEAR Inc.

Sockeye Licensing TX LLC sued the Company in the Northern District of Illinois, on December 16, 2019, alleging infringement of U.S. Patent Nos. 9,547,981 and 8,135,342, entitled "System, Method and Apparatus for Using a Wireless Device to Control Other Devices," and "System, Method and Apparatus for Using a Wireless Cell Phone Device to Create a Desktop Computer and Media Center," respectively. The accused product is the Netgear Push2TV wireless display adapter. The Company's answer is due March 16, 2020, and the Court has set an initial status conference for March 26, 2020.

It is too early to reasonably estimate any financial impact to the Company resulting from this litigation matter.

Cassiopeia v. NETGEAR, Inc.

Cassiopeia IP LLC sued the Company in the District of Delaware, on December 21, 2019, alleging infringement of U.S. Patent No. 7,322,046, entitled "Method and System for the Secure Use of a Network Service." The accused product is the NeoTV MAX Streaming Player. The Company's answer is due March 3, 2020.

It is too early to reasonably estimate any financial impact to the Company resulting from this litigation matter.

Note 11. Stockholders' Equity

Stock Repurchases

From time to time, the Company's Board of Directors has authorized programs under which the Company may repurchase shares of its common stock, depending on market conditions, in the open market or through privately negotiated transactions. Under the authorizations, the timing and actual number of shares subject to repurchase are at the discretion of management and are contingent on a number of factors, such as levels of cash generation from operations, cash requirements for acquisitions and the price of the Company's common stock. On July 19, 2019, the Company's Board of Directors approved an increase in the number of shares of common stock authorized for repurchase under the Company's stock repurchase program of up to an incremental 4.5 million shares. As of December 31, 2019, 3.6 million shares remained authorized for repurchase under the repurchase program. The Company repurchased, as reported based on trade date, approximately 2.4 million shares of common stock at a cost of $75.9 million, approximately 0.5 million shares of common stock at a cost of $30.0 million and approximately 2.4 million shares of common stock at a cost of $113.2 million, during the years ended December 31, 2019, 2018 and 2017, respectively.

The Company repurchased, as reported based on trade date, approximately 198,000 shares of common stock at a cost of $6.5 million, approximately 138,000 shares of common stock at a cost of $8.1 million and 135,000 shares of common stock at a cost of $6.4 million, to administratively facilitate the withholding and subsequent remittance of personal income and payroll taxes for individuals receiving RSUs during the year ended December 31, 2019, 2018 and 2017, respectively.

These shares were retired upon repurchase. The Company's policy related to repurchases of its common stock is to charge the excess of cost over par value to retained earnings. All repurchases were made in compliance with Rule 10b-18 under the Securities Exchange Act of 1934, as amended.

Accumulated Other Comprehensive Income (Loss)

The following table sets forth the changes in accumulated other comprehensive income ("AOCI") by component during the years ended December 31, 2019, 2018 and 2017:

	Unrealized gains (losses) on available -for-sale investments	Unrealized gains (losses) on derivatives	Estimated tax benefit (provision)	Total
		(In thousands)		
Balance as of December 31, 2016	$ (31)	$ 2,230	$ (261)	$ 1,938
Other comprehensive income (loss) before reclassifications	(115)	(10,692)	3,062	(7,745)
Less: Amount reclassified from accumulated other comprehensive income	—	(7,624)	2,668	(4,956)
Net current period other comprehensive income (loss)	(115)	(3,068)	394	(2,789)
Balance as of December 31, 2017	$ (146)	$ (838)	$ 133	$ (851)
Other comprehensive income (loss) before reclassifications	128	1,422	(249)	1,301
Less: Amount reclassified from accumulated other comprehensive income	—	588	(123)	465
Net current period other comprehensive income (loss)	128	834	(126)	836
Distribution of Arlo	—	(4)	4	—
Balance as of December 31, 2018	$ (18)	$ (8)	$ 11	$ (15)
Other comprehensive income (loss) before reclassifications	16	1,565	(332)	1,249
Less: Amount reclassified from accumulated other comprehensive income	—	1,535	(322)	1,213
Net current period other comprehensive income (loss)	16	30	(10)	36
Balance as of December 31, 2019	$ (2)	$ 22	$ 1	$ 21

The following tables provide details about significant amounts reclassified out of each component of AOCI for the years ended December 31, 2019, 2018 and 2017:

	Year Ended December 31,		
	2019	2018	2017
		(In thousands)	
Amount Reclassified from AOCI			
Gains (losses) on cash flow hedge:			
Foreign currency forward contracts			
Affected line item in the statement of operations			
Net revenue	$ 1,929	$ 665	$ (5,786)
Cost of revenue	(12)	(9)	18
Research and development	(57)	83	130
Sales and marketing	(284)	(102)	788
General and administrative	(41)	(53)	133
Total from continuing operations before tax	1,535	584	(4,717)
Tax impact from continuing operations	(322)	(123)	1,651
Total, from continuing operations net of tax	1,213	461	(3,066)
Total, from discontinued operations net of tax	—	4	(1,890)
Total, net of tax	$ 1,213	$ 465	$ (4,956)

Note 12. Employee Benefit Plans

2003 Stock Plan

In April 2003, the Company adopted the 2003 Stock Plan (the “2003 Plan”). The 2003 Plan provided for the granting of stock options to employees and consultants of the Company. During the second fiscal quarter of 2013, the Company's 2003 Stock Plan expired. No further equity awards can be granted under the 2003 Plan. Outstanding awards under the 2003 Stock Plan remain subject to the terms and conditions of the 2003 plan.

2006 Long Term Incentive Plan

In April 2006, the Company adopted the 2006 Long Term Incentive Plan (the “2006 Plan”). The 2006 Plan provides for the granting of stock options, stock appreciation rights, restricted stock, restricted stock units (“RSU”) performance awards and other stock awards, to eligible directors, employees and consultants of the Company. The Company's 2006 Plan expired on April 13, 2016 by its terms. No further equity awards can be granted under the 2006 Plan. Outstanding awards under the 2006 Stock Plan remain subject to the terms and conditions of the 2006 plan.

2016 Equity Incentive Plan

In April 2016, the Company's Board of Directors adopted the 2016 Equity Incentive Plan (the "2016 Plan") which was approved by the Company's stockholders at the 2016 Annual Meeting of Stockholders on June 3, 2016. The 2016 Plan provides for the granting of stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares and performance units to eligible directors, employees and consultants of the Company. The original maximum aggregate number of shares that could be issued under the 2016 Plan was 2.5 million Shares, plus (i) any shares that were available for grant under the Company’s 2006 Plan as of immediately prior to the 2006 Plan's expiration by its terms, which was 699,827 shares, plus (ii) any shares granted under the 2006 Plan that expire, are forfeited to or repurchased by the Company. In May 2018, the Company adopted amendments to the 2016 Plan which increased the number of shares of the Company’s common stock that may be issued under the 2016 plan by an additional 1.7 million shares. In January 2019, the Company received the approval from its Compensation Committee to increase the number of shares that the Company may be issued under the 2016 plan to a new total of 3.1 million shares, pursuant to the adjustment provisions of the 2016 Plan as a result of the Distribution. As of December 31, 2019, approximately 1.6 million shares remained available for future grants under the 2016 Plan.

Options granted generally vest over four years with the first tranche at the end of twelve months from the date of grant and the remaining shares vesting monthly over the remaining three years. Options granted generally expire in 10 years from the date of grant. RSUs granted generally vest in annual installments over four years and do not have an expiration date.

Any shares subject to restricted stock, restricted stock units, performance units, or performance shares awarded under the 2016 Plan will be counted against the shares available for issuance under the 2016 Plan as one and fifty-eight hundredths (1.58) shares for every one share subject to such awards. Additionally, any shares that are tendered by a participant of the 2016 Plan or retained by the Company as full or partial payment to the Company for the purchase of an award or to satisfy tax withholding obligations in connection with an award shall no longer again be made available for issuance under the 2016 Plan.

Employee Stock Purchase Plan

The Company sponsors an Employee Stock Purchase Plan (the “ESPP”), pursuant to which eligible employees may contribute up to 10% of compensation, subject to certain income limits, to purchase shares of the Company’s common stock. Prior to February 16, 2016, employees could purchase stock semi-annually at a price equal to 85% of the fair market value on the purchase date. Beginning February 16, 2016, the terms of the plan include a look-back feature that enables employees to purchase stock semi-annually at a price equal to 85% of the lesser of the fair market value at the beginning of the offering period or the purchase date. The duration of each offering period is generally six-months. In April 2016, the Company approved an amendment to the plan to increase the number of shares of common stock authorized for sale under the plan by 1.0 million shares to a total of 2.0 million shares. For the years ended December 31, 2019, 2018, and 2017, the Company recognized ESPP compensation expense of $1.4 million, $1.4 million and $1.2 million, respectively. Approximately 123,000 shares of common stock were purchased at an average exercise price of $29.41 in the year ended December 31, 2019. As of December 31, 2019, 0.6 million shares were reserved for future issuance under the ESPP.

Option Activity

Stock option activity during the year ended December 31, 2019 was as follows:

	Number of Shares	Weighted Average Exercise Price Per Share	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
	(In thousands)	(In dollars)	(In years)	(In thousands)
Outstanding as of December 31, 2018	1,969	$ 25.30		
Granted	502	26.61		
Exercised	(250)	20.08		
Cancelled	(16)	36.27		
Expired	(17)	36.81		
Outstanding as of December 31, 2019	2,188	$ 26.03	6.10	$ 4,171
As of December 31, 2019				
Vested and expected to vest	2,188	$ 26.03	6.10	$ 4,171
Exercisable Options	1,411	$ 23.96	4.60	$ 4,153

The aggregate intrinsic values in the table above represent the total pre-tax intrinsic values (the difference between the Company's closing stock price on the last trading day of 2019, or December 31, 2019, and the exercise price, multiplied by the number of shares underlying the in-the-money options) that would have been received by the option holders had all option holders exercised their options on December 31, 2019. This amount changes based on the fair market value of the Company's stock. Total intrinsic value of options exercised for the year ended December 31, 2019, 2018, and 2017 was $3.5 million, $11.0 million and $7.7 million, respectively.

The total fair value of options vested during the years ended December 31, 2019, 2018, and 2017 was $4.1 million, $3.8 million and $3.8 million, respectively.

The following table summarizes significant ranges of outstanding and exercisable stock options as of December 31, 2019:

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Shares Outstanding	Weighted-Average Remaining Contractual Life	Weighted-Average Exercise Price Per Share	Shares Exercisable	Weighted-Average Exercise Price Per Share
	(In thousands)	(In years)	(In dollars)	(In thousands)	(In dollars)
$12.34 - $19.32	452	3.86	$ 18.82	452	$ 18.82
$19.33 - $23.48	559	3.95	$ 21.65	542	$ 21.59
$23.77 - $25.37	293	6.85	$ 25.36	188	$ 25.36
$26.61 - $26.61	503	8.91	$ 26.61	37	$ 26.61
$29.23 - $41.67	381	7.63	$ 40.76	192	$ 40.80
$12.34 - $41.67	2,188	6.10	$ 26.03	1,411	$ 23.96

RSU Activity

RSU activity during the year ended December 31, 2019 was as follows:

	Number of Shares	Weighted Average Grant Date Fair Value Per Share	Weighted Average Remaining Contractual Term	Average Intrinsic Value
	(In thousands)	(In dollars)	(In years)	(In thousands)
Outstanding as of December 31, 2018	1,627	$ 34.31		
Granted	709	31.33		
Vested	(594)	31.35		
Cancelled	(155)	35.67		
Outstanding as of December 31, 2019	1,587	$ 33.95	1.36	$ 38,895

The total fair value of RSUs vested during the years ended December 31, 2019, 2018 and 2017 was $19.4 million, $25.7 million and $19.5 million, respectively. The grant date fair value of RSUs vested during the years ended December 31, 2019, 2018 and 2017 was $18.6 million, $18.1 million and $14.6 million, respectively.

Valuation and Expense Information

The Company measures stock-based compensation at the grant date based on the estimated fair value of the award. Estimated compensation cost relating to RSUs is based on the closing fair market value of the Company's common stock on the date of grant. The fair value of options granted and the purchase rights granted under the ESPP is estimated on the date of grant using a Black-Scholes-Merton option valuation model that uses the assumptions noted in the following table. The estimated expected term of options granted is derived from historical data on employee exercise and post-vesting employment termination behavior. The risk free interest rate of options granted and the purchase rights granted under the ESPP is based on the implied yield currently available on U.S. Treasury securities with a remaining term commensurate with the estimated expected term. Expected volatility of options granted under the 2016 Plan and the purchase rights granted under the ESPP is based on historical volatility over the most recent period commensurate with the estimated expected term.

The following table sets forth the weighted-average assumptions used to estimate the fair value of option grants and purchase rights granted under the ESPP during the years ended December 31, 2019, 2018 and 2017:

	Year Ended December 31,					
	2019	2018	2017	2019	2018	2017
	Stock Options			ESPP		
Expected life (in years)	6.2	4.4	4.4	0.5	0.5	0.5
Risk-free interest rate	1.85%	2.36%	1.66%	2.06%	2.00%	0.93%
Expected volatility	33.9%	31.1%	31.6%	43.90%	37.9%	29.7%
Dividend yield	—	—	—	—	—	—

The weighted average estimated fair value of options granted during the years ended December 31, 2019, 2018 and 2017 was $9.72, $20.63 and $12.35, respectively.

The following table sets forth the stock-based compensation expense resulting from stock options, RSUs, and the ESPP included in the Company's consolidated statements of operations:

	Year Ended December 31,		
	2019	2018	2017
	(In thousands)		
Cost of revenue	$ 2,843	$ 2,435	$ 1,406
Research and development	6,532	4,283	2,968
Sales and marketing	9,069	8,267	5,481
General and administrative	10,693	11,476	9,114
Total	$ 29,137	$ 26,461	$ 18,969

The Company recognizes these compensation costs on a straight-line basis over the requisite service period of the award, which is generally the award vesting term of four years. Forfeitures are accounted for as they occur.

Total stock-based compensation cost capitalized in inventory was less than $0.8 million in the years ended December 31, 2019, 2018 and 2017.

As of December 31, 2019, $7.8 million of unrecognized compensation cost related to stock options is expected to be recognized over a weighted-average period of 2.1 years and $41.3 million of unrecognized compensation cost related to unvested RSUs is expected to be recognized over a weighted-average period of 2.2 years. If there are any modifications or cancellations of the underlying unvested awards, the Company may be required to accelerate, increase or cancel all or a portion of the remaining unearned stock-based compensation expense.

Note 13. Segment Information

Operating segments are components of an enterprise about which separate financial information is available and is regularly evaluated by management, namely the Chief Operating Decision Maker ("CODM") of an organization, in order to determine operating and resource allocation decisions. By this definition, the Company has identified its CEO as the CODM. The Company operates and reports in two segments: Connected Home, and SMB.

- Connected Home: Focused on consumers and consists of high-performance, dependable and easy-to-use WiFi internet networking solutions such as WiFi mesh systems, routers, 4G/5G mobile products, smart devices such as Meural digital canvasses, and services offering consumers a range of parental controls and cyber security for their home networks; and

- SMB: Focused on small and medium-sized businesses and consists of business networking, wireless LAN, storage, and security solutions that bring enterprise-class functionality to small and medium-sized businesses at an affordable price.

The Company believes that this structure reflects its current operational and financial management, and provides the best structure for the Company to focus on growth opportunities while maintaining financial discipline. The leadership team of each segment is focused on product development efforts, both from a product marketing and engineering standpoint, to service the unique needs of their customers.

The results of the reportable segments are derived directly from the Company's management reporting system. The results are based on the Company's method of internal reporting and are not necessarily in conformity with accounting principles generally accepted in the United States. Management measures the performance of each segment based on several metrics, including contribution income. Segment contribution income includes all product line segment revenues less the related cost of sales, research and development and sales and marketing costs. Contribution income is used, in part, to evaluate the performance of, and allocate resources to, each of the segments. Certain operating expenses are not allocated to segments because they are separately managed at the corporate level. These unallocated indirect costs include corporate costs, such as corporate research and development, corporate marketing expense and general and administrative costs, amortization of intangibles, stock-based compensation expense, separation expense, change in fair value of contingent consideration, restructuring and other charges, litigation reserves, net, interest income, net and other income (expense), net. The CODM does not evaluate operating segments using discrete asset information.

Financial information for each reportable segment and a reconciliation of segment contribution income to income before income taxes is as follows:

	Year ended December 31, 2019	2018	2017
	(In thousands, except percentage data)		
Net Revenue:			
Connected Home	$ 711,391	$ 771,060	$ 768,261
SMB	287,372	287,756	270,908
Total net revenue	$ 998,763	$ 1,058,816	$ 1,039,169
Contribution Income:			
Connected Home	$ 67,775	$ 96,340	$ 83,870
Contribution margin	*9.5%*	*12.5%*	*10.9%*
SMB	$ 67,282	$ 70,142	$ 63,865
Contribution margin	*23.4%*	*24.4%*	*23.6%*
Total segment contribution income	$ 135,057	$ 166,482	$ 147,735
Corporate and unallocated costs	(70,525)	(90,186)	(75,305)
Amortization of intangibles (1)	(6,731)	(7,979)	(10,663)
Stock-based compensation expense	(29,137)	(26,461)	(18,969)
Separation expense	(264)	(929)	—
Change in fair value of contingent consideration	25	—	—
Restructuring and other charges	(2,077)	(2,198)	(97)
Litigation reserves, net	(160)	(15)	(148)
Interest income, net	2,539	3,980	2,114
Other income (expense), net	844	510	1,557
Income before income taxes	$ 29,571	$ 43,204	$ 46,224

(1) Amount excludes amortization expense related to patents within purchased intangibles in cost of revenue.

Operations by Geographic Region

For reporting purposes revenue is generally attributed to each geographic region based on the location of the customer. The following table shows net revenue by geography for the years ended December 31, 2019, 2018 and 2017:

	Year Ended December 31, 2019	2018	2017
	(In thousands)		
United States (U.S.)	$ 637,566	$ 686,145	$ 648,152
Americas (excluding U.S.)	15,440	14,548	16,937
EMEA	200,099	207,599	197,074
APAC	145,658	150,524	177,006
Total net revenue	$ 998,763	$ 1,058,816	$ 1,039,169

Long-lived assets by Geographic Region

The Company's long-lived assets, which consist of property and equipment, net and operating lease right-of-use assets, net, are located in the following geographic locations:

	As of December 31,	
	2019	2018
	(In thousands)	
United States	$ 23,137	$ 4,993
Canada	3,954	4,359
EMEA	3,782	95
China	5,040	7,652
APAC (excluding China) (1)	10,687	3,078
Total	$ 46,600	$ 20,177

(1) No individual country, other than disclosed above, represented more than 10% of the Company's total long-lived assets in the periods presented.

Significant Customers

For the year ended December 31, 2019, the Company had two customers, primarily within the Connected Home segment, that each individually accounted for 16% of net revenue. The Company had two customers, primarily within the Connected Home segment, that accounted for 17% and 15% of net revenue for the year ended December 31, 2018, and 16% and 13% of net revenue for the year ended December 31, 2017, respectively.

Note 14. Fair Value Measurements

The Company determines the fair values of its financial instruments based on 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. The classification of a financial asset or liability within the hierarchy is based upon the lowest level input that is significant to the fair value measurement. The fair value hierarchy prioritizes the inputs into three levels 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;

Level 2: Quoted prices in markets that are not active, or inputs which are observable, either directly or indirectly, for substantially the full term of the asset or liability;

Level 3: Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable (i.e., supported by little or no market activity).

The following tables summarize assets and liabilities measured at fair value on a recurring basis as of December 31, 2019 and 2018:

	As of December 31, 2019			
	Total	Quoted market prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
	(In thousands)			
Assets:				
Cash equivalents: money-market funds	$ 22,105	$ 22,105	$ —	$ —
Available-for-sale debt investments: convertible debt(1)	1,326	—	—	1,326
Available-for-sale investments: certificates of deposit(1)	149	—	149	—
Trading securities: mutual funds(1)	4,023	4,023	—	—
Foreign currency forward contracts(2)	152	—	152	—
Total assets measured at fair value	$ 27,755	$ 26,128	$ 301	$ 1,326
Liabilities:				
Foreign currency forward contracts(3)	$ 525	$ —	$ 525	$ —
Contingent consideration(4)	5,928	—	—	5,928
Total liabilities measured at fair value	$ 6,453	$ —	$ 525	$ 5,928

	As of December 31, 2018			
	Total	Quoted market prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
	(In thousands)			
Assets:				
Cash equivalents: money-market funds	$ 22,573	$ 22,573	$ —	$ —
Available-for-sale debt investments: U.S. treasuries(1)	70,314	—	70,314	—
Available-for-sale investments: certificates of deposit(1)	149	—	149	—
Trading securities: mutual funds(1)	2,854	2,854	—	—
Foreign currency forward contracts(2)	786	—	786	—
Total assets measured at fair value	$ 96,676	$ 25,427	$ 71,249	$ —
Liabilities:				
Foreign currency forward contracts(3)	$ 368	$ —	$ 368	$ —
Contingent consideration(4)	5,953	—	—	5,953
Total liabilities measured at fair value	$ 6,321	$ —	$ 368	$ 5,953

(1) Included in Short-term investments on the Company's consolidated balance sheets.
(2) Included in Prepaid expenses and other current assets on the Company's consolidated balance sheets.
(3) Included in Other accrued liabilities on the Company's consolidated balance sheets.
(4) Included in Other non-current accrued liabilities on the Company’s consolidated balance sheets. The contingent consideration represents the estimated fair value of the additional variable cash consideration payable in connection with the acquisition of Meural that is contingent upon the achievement of certain technical and service revenue milestones. Refer to Note 4, Business Acquisition, regarding detailed disclosures on the determination of fair value of the contingent consideration.

The Company's investments in cash equivalents and trading securities are classified within Level 1 of the fair value hierarchy because they are valued based on quoted market prices in active markets. The Company’s available-for-sale marketable investments are classified within Level 2 of the fair value hierarchy because they are valued based on readily available pricing sources for comparable instruments, identical instruments in less active markets, or models using market observable inputs. The Company's foreign currency forward contracts are classified within Level 2 of the fair value hierarchy as they are valued using pricing models that take into account the contract terms as well as currency rates and counterparty credit rates. The Company verifies the reasonableness of these pricing models using observable market data for related inputs into such models. The Company enters into foreign currency forward contracts with only those counterparties that have long-term credit ratings of A-/A3 or higher. The Company's contingent consideration resulting from acquisitions and available-for-sale convertible debt securities, which were issued by a privately held company, are classified within Level 3 of the fair value hierarchy as the valuations typically reflect management’s estimate of assumptions that market participants would use in pricing the asset or liability. The carrying value of non-financial assets and liabilities measured at fair value in the financial statements on a recurring basis, including accounts receivable and accounts payable, approximate fair value due to their short maturities.

Note 15. Leases

The Company leases office space, cars, distribution centers and equipment under non-cancellable lease arrangements with various expiration date through December 2026. The leases have remaining lease terms of 1 year to 6 years, some of which include options to extend for up to a further 5 years, and some of which include options to terminate prior to completion of the contractual lease term with or without penalties. The Company determines the duration of the lease arrangement giving thought to whether or not it is reasonably certain that the Company will exercise options to extend or terminate the lease arrangement ahead of its contractual term. The leases do not contain any material residual value guarantees.

The components of lease cost were as follows:

	Year Ended December 31, 2019 (In Thousands)
Operating lease cost	$ 11,945
Short-term lease cost (1)	1,111
Total lease cost (2)	$ 13,056

(1) Includes variable lease cost, which was immaterial.
(2) Included in cost of revenue, sales and marketing, research and development and general and administration in the Company’s consolidated statement of operations.

Supplemental cash flow information related to leases was as follows:

	Year Ended December 31, 2019 (in thousands)
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows relating to operating leases	$ 11,652
Lease liabilities arising from obtaining right-of-use assets:	
Operating leases	$ 918

Supplemental balance sheet information related to leases was as follows:

	As of December 31, 2019
Weighted Average Remaining Lease Term (in years)	
Operating leases	4.5
Weighted Average Discount Rate	
Operating leases	3.7%

As of December 31, 2019, maturities of operating lease liabilities were as follows (in thousands):

	Operating Lease
2020	$ 10,460
2021	8,092
2022	7,028
2023	4,519
2024	4,345
Thereafter	3,374
Total lease payments	37,818
Less imputed interest	(3,027)
Total	$ 34,791

Supplemental Information for Comparative Periods

As of December 31, 2018, prior to the adoption of *ASC 842 Leases*, future minimum lease payments under non-cancelable operating leases were as follows (in thousands):

	Leases
2019	$ 11,900
2020	9,986
2021	7,785
2022	6,856
2023	4,478
Thereafter	7,725
Total future minimum lease payments	$ 48,730

Rent expense in the years ended December 31, 2018 and 2017 was $9.4 million and $9.9 million, respectively.

Note 16. Restructuring and Other Charges

The Company accounts for its restructuring plans under the authoritative guidance for exit or disposal activities. The Company presents expenses related to restructuring and other charges as a separate line item in the consolidated statements of operations. Accrued restructuring and Other charges are classified within other accrued liabilities on the consolidated balance sheets.

Restructuring and other charges recognized in fiscal 2019 and 2018 were primarily for severance, and other costs in relation to certain office closures and downsizes. No significant restructuring and other charges were recognized during fiscal 2017.

The following table provides a summary of accrued restructuring and other charge activities for the years ended December 31, 2019, 2018 and 2017:

	Employee termination charges	Lease contract termination and other charges	Total
		(In thousands)	
Balance as of December 31, 2016	$ 6	1,402	$ 1,408
Additions	—	97	97
Cash payments	—	(370)	(370)
Balance as of December 31, 2017	$ 6	$ 1,129	$ 1,135
Additions	1,789	464	2,253
Cash payments	(1,010)	(1,403)	(2,413)
Adjustments	(10)	(45)	(55)
Balance as of December 31, 2018	$ 775	$ 145	$ 920
Additions	2,082	166	2,248
Cash payments	(1,783)	(215)	(1,998)
Adjustments	(142)	(30)	(172)
Balance as of December 31, 2019	$ 932	$ 66	$ 998

QUARTERLY FINANCIAL DATA

(In thousands, except per share amounts)

(Unaudited)

The following table presents unaudited quarterly financial information for each of the Company's last eight quarters. This information has been derived from the Company's unaudited financial statements and has been prepared on the same basis as the audited consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K. In the opinion of management, all necessary adjustments, consisting only of normal recurring adjustments, have been included to state fairly the quarterly results.

	December 31, 2019	September 29, 2019	June 30, 2019	March 31, 2019
Net revenue	$ 252,971	$ 265,858	$ 230,852	$ 249,082
Gross profit	$ 69,583	$ 77,192	$ 65,445	$ 82,008
Provision (benefit) for income taxes	$ 1,045	$ (228)	$ 756	$ 2,207
Net income (loss) from continuing operations	$ (420)	$ 12,529	$ 839	$ 12,843
Net income (loss)	$ (420)	$ 12,529	$ 839	$ 12,843
Net income (loss) attributable to NETGEAR, Inc.	$ (420)	$ 12,529	$ 839	$ 12,843
Net income (loss) per share - basic:				
Income (loss) from continuing operations	$ (0.01)	$ 0.41	$ 0.03	$ 0.41
Net income (loss) attributable to NETGEAR, Inc.	$ (0.01)	$ 0.41	$ 0.03	$ 0.41
Net income (loss) per share - diluted:				
Income (loss) from continuing operations	$ (0.01)	$ 0.39	$ 0.03	$ 0.39
Net income (loss) attributable to NETGEAR, Inc.	$ (0.01)	$ 0.39	$ 0.03	$ 0.39

	December 31, 2018	September 30, 2018	July 1, 2018	April 1, 2018
Net revenue	$ 288,928	$ 269,411	$ 255,276	$ 245,201
Gross profit	$ 90,654	$ 94,445	$ 80,280	$ 76,319
Provision (benefit) for income taxes	$ 19,210	$ 5,483	$ 1,271	$ (86)
Net income (loss) from continuing operations	$ (535)	$ 16,310	$ 533	$ 1,018
Net income (loss)	$ (27,839)	$ 9,150	$ (5,230)	$ 5,590
Net income (loss) attributable to NETGEAR, Inc.	$ (19,471)	$ 9,949	$ (5,230)	$ 5,590
Net income (loss) per share - basic:				
Income (loss) from continuing operations	$ (0.02)	$ 0.51	$ 0.02	$ 0.03
Net income (loss) attributable to NETGEAR, Inc.	$ (0.62)	$ 0.31	$ (0.17)	$ 0.18
Net income (loss) per share - diluted:				
Income (loss) from continuing operations	$ (0.02)	$ 0.49	$ 0.02	$ 0.03
Net income (loss) attributable to NETGEAR, Inc.	$ (0.62)	$ 0.30	$ (0.16)	$ 0.17

Item 9. ***Changes in and Disagreements With Accountants on Accounting and Financial Disclosure***

None.

Item 9A. ***Controls and Procedures***

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act). 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.

Our management, including our Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2019. In making this assessment, our management used the criteria established in Internal Control-Integrated Framework (2013), issued by The Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on management's assessment using those criteria, our management concluded that our internal control over financial reporting was effective as of December 31, 2019. The effectiveness of our internal control over financial reporting as of December 31, 2019 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included in this Annual Report on Form 10-K.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the fourth fiscal quarter of 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Evaluation of Disclosure Controls and Procedures

Based on an evaluation under the supervision and with the participation of our management (including our Chief Executive Officer and Chief Financial Officer), our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act were effective as of the end of the period covered by this Annual Report on Form 10-K to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and (ii) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Item 9B. ***Other Information***

None.

PART III

Certain information required by Part III is incorporated herein by reference from our proxy statement related to our 2020 Annual Meeting of Stockholders ("Proxy Statement"), which we intend to file no later than 120 days after the end of the fiscal year covered by this Form 10-K.

Item 10. ***Directors, Executive Officers and Corporate Governance***

The information required by this Item concerning our directors, executive officers, standing committees and procedures by which stockholders may recommend nominees to our Board of Directors, is incorporated by reference to the sections of our Proxy Statement under the headings "Information Concerning the Nominees and Incumbent Directors," "Board and Committee Meetings," "Audit Committee" and "Delinquent Section 16(a) Reports" and to the information contained in the section captioned "Executive Officers of the Registrant" included under Part I of this Annual Report on Form 10-K.

We have adopted a Code of Ethics that applies to our Chief Executive Officer and senior financial officers, as required by the SEC. The current version of our Code of Ethics can be found on our Internet site at http://www.netgear.com. Additional information required by this Item regarding our Code of Ethics is incorporated by reference to the information contained in the section captioned "Corporate Governance Policies and Practices" in our Proxy Statement.

We intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding an amendment to, or waiver from, a provision of our Code of Ethics by posting such information on our website at http://www.netgear.com within four business days following the date of such amendment or waiver.

Item 11. ***Executive Compensation***

The information required by this Item is incorporated by reference to the sections of our Proxy Statement under the headings "Compensation Discussion and Analysis," "Executive Compensation," "Director Compensation," "Fiscal Year 2019 Director Compensation," "Compensation Committee Interlocks and Insider Participation," and "Report of the Compensation Committee of the Board of Directors."

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

The additional information required by this Item is incorporated by reference to the information contained in the section captioned "Equity Compensation Plan Information" in our Proxy Statement.

The additional information required by this Item is incorporated by reference to the information contained in the section captioned "Security Ownership of Certain Beneficial Owners and Management" in our Proxy Statement.

Item 13. ***Certain Relationships and Related Transactions, and Director Independence***

The information required by this Item is incorporated by reference to the information contained in the section captioned "Election of Directors" and "Related Party Transactions" in our Proxy Statement.

Item 14. ***Principal Accounting Fees and Services***

The information required by this Item related to audit fees and services is incorporated by reference to the information contained in the section captioned "Ratification of Appointment of Independent Registered Public Accounting Firm" appearing in our Proxy Statement.

PART IV

Item 15. ***Exhibits, Financial Statement Schedules***

(a) The following documents are filed as part of this report:

(1) Financial Statements.

The following consolidated financial statements of NETGEAR, Inc. are filed as part of this Annual Report on Form 10-K in Item 8, *Financial Statements and Supplementary Data*.

(2) Financial Statement Schedule (Valuation and Qualifying Accounts) for the three years ended December 31, 2019.

Schedule II—Valuation and Qualifying Accounts (1)

	Balance at Beginning of Year	Other	Additions	Deductions	Balance at End of Year
			(In thousands)		
Allowance for doubtful accounts:					
Year ended December 31, 2019	$ 1,254	$ —	$ 21	$ (196)	$ 1,079
Year ended December 31, 2018	1,050	—	50	154	1,254
Year ended December 31, 2017	1,049	—	99	(98)	1,050
Allowance for sales returns:					
Year ended December 31, 2019	$ —	$ —	$ —	$ —	$ —
Year ended December 31, 2018	14,321	$ (14,321) (2)	—	—	—
Year ended December 31, 2017	10,602	—	26,419	(22,700)	14,321
Allowance for price protection:					
Year ended December 31, 2019	$ —	$ —	$ —	$ —	$ —
Year ended December 31, 2018	3,245	(3,245) (2)	—	—	—
Year ended December 31, 2017	4,185	—	7,149	(8,089)	3,245

(1) Upon Arlo's Distribution on December 31, 2018, Arlo's historical financial results for periods prior to its Distribution were reflected in our consolidated financial statements as discontinued operations and these schedules represent the results from continuing operations. Refer to Note 3. Discontinued Operations, for additional information on Arlo's Distribution.

(2) Upon adoption of ASC 606, allowances for sales returns and price protection were reclassified to current liabilities as these reserve balances are considered refund liabilities.

All other schedules have been omitted because they are not required, not applicable, or the required information is otherwise included.

(3) Exhibits.

INDEX TO EXHIBITS

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
3.1	Amended and Restated Certificate of Incorporation of the registrant	10-Q	8/4/2017	3.1	
3.2	Amended and Restated Bylaws of the registrant	8-K	4/20/2018	3.2	
4.1	Form of registrant's common stock certificate	S-1/A	7/14/2003	4.1	
4.2	Description of the Registrant's Securities				X
10.1	Form of Indemnification Agreement for directors and officers	S-1	4/10/2003	10.1	
10.2#	2016 Equity Incentive Plan and forms of agreements thereunder	S-8	5/31/2018	99.1	
10.3#	2003 Employee Stock Purchase Plan, as amended	S-8	6/3/2016	99.2	
10.4#	Amended and Restated 2006 Long-Term Incentive Plan and forms of agreements thereunder	S-8	6/6/2014	4.3	
10.5#	NETGEAR, Inc. Deferred Compensation Plan	8-K	4/5/2013	10.1	
10.6#	NETGEAR, Inc. Executive Bonus Plan, as amended and restated April 1, 2013	DEF14A	4/16/2013	Appendix A	
10.7*	Warehousing Agreement, dated July 5, 2001, between the registrant and APL Logistics Americas, Ltd.	S-1/A	4/21/2003	10.25	
10.8*	Distribution Operations Agreement, dated April 27, 2001, between the registrant and DSV Solutions B.V. (formerly Furness Logistics BV)	S-1/A	4/21/2003	10.26	
10.9*	Distribution Operations Agreement, dated December 1, 2001, between the registrant and Kerry Logistics (Hong Kong) Limited	S-1/A	4/21/2003	10.27	
10.10	Office Lease, dated as of September 25, 2007, by and between the registrant and BRE/Plumeria, LLC	8-K	9/27/2007	10.1	
10.10a	First Amendment to Office Lease, dated as of April 23, 2008, by and between the registrant and BRE/Plumeria, LLC	10-Q	5/9/2008	10.1	
10.10b	Second Amendment to Office Lease, dated June 25, 2015, by and between the registrant and KBSII/Plumeria, LLC	10-K	2/19/2016	10.11B	
10.11#	Offer Letter, dated December 3, 1999, between the registrant and Patrick C.S. Lo	S-1	4/10/2003	10.5	
10.11a#	Amendment to Offer Letter, dated December 23, 2008, between the registrant and Patrick C.S. Lo	10-K	3/4/2009	10.51	
10.12#	Offer Letter, dated December 9, 1999, between the registrant and Mark G. Merrill	S-1	4/10/2003	10.8	

10.12a#	Amendment to Offer Letter, dated December 28, 2008, between the registrant and Mark G. Merrill	10-K	3/4/2009	10.52	
10.13#	Employment Agreement, dated October 18, 2002, between the registrant and Michael F. Falcon	S-1	4/10/2003	10.10	
10.13a#	Amendment to Employment Agreement, dated December 29, 2008, between the registrant and Michael F. Falcon	10-K	3/4/2009	10.49	
10.14#	Employment Agreement, dated July 8, 2013, between the registrant and John P. McHugh	8-K	7/11/2013	10.1	
10.15#	Amendment to Employment Agreement, dated December 30, 2008, between the registrant and Michael A. Werdann	10-K	3/4/2009	10.54	
10.16#	Second Amendment to Employment Agreement, dated October 1, 2015, between the registrant and Michael A. Werdann	10-K	2/19/2016	10.21	
10.17#	Form of Change in Control and Severance Agreement (Chief Executive Officer)	10-Q	11/2/2018	10.1*	
10.18#	Form of Change in Control and Severance Agreement (Other Executive Officers)	10-Q	11/2/2018	10.2*	
10.19#	Master Separation Agreement, by and between NETGEAR, Inc. and Arlo Technologies, Inc., dated as of August 2, 2018	8-K	8/7/2018	10.1	
10.20#	Transition Services Agreement, by and between NETGEAR, Inc. and Arlo Technologies, Inc., dated as of August 2, 2018	8-K	8/7/2018	10.2	
10.21#	Tax Matters Agreement, by and between NETGEAR, Inc. and Arlo Technologies, Inc., dated as of August 2, 2018	8-K	8/7/2018	10.3	
10.22#	Employee Matters Agreement, by and between NETGEAR, Inc. and Arlo Technologies, Inc., dated as of August 2, 2018	8-K	8/7/2018	10.4	
10.23#	Intellectual Property Rights Cross-License Agreement, by and between NETGEAR, Inc. and Arlo Technologies, Inc., dated as of August 2, 2018	8-K	8/7/2018	10.5	
21.1	List of subsidiaries and affiliates				X
23.1	Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm				X
24.1	Power of Attorney (included on signature page)				X
31.1	Certification of Chief Executive Officer pursuant to Securities Exchange Act Rules 13a-14(a) / 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				X
31.2	Certification of Chief Financial Officer pursuant to Securities Exchange Act Rules 13a-14(a) / 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				X

32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	X
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	X
101.INS	Inline XBRL Instance Document- the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.	X
101.SCH	Inline XBRL Taxonomy Extension Schema Document	X
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document	X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document	X
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document	X
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document	X
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibits 101)	X
#	Indicates management contract or compensatory plan or arrangement.	
*	Confidential treatment has been granted as to certain portions of this Exhibit.	

Item 16. ***Form 10-K Summary***

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Annual Report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Jose, State of California, on the 18th day of February 2020.

NETGEAR, INC.
By: /s/ PATRICK C.S. LO
Patrick C.S. Lo
Chairman of the Board and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Patrick C.S. Lo and Bryan D. Murray, and each of them, his attorneys-in-fact, each with the power of substitution, for him in any and all capacities, to sign any and all amendments to this Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

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

Signature	Title	Date
/S/ PATRICK C.S. LO Patrick C.S. Lo	Chairman of the Board and Chief Executive Officer *(Principal Executive Officer)*	February 18, 2020
/S/ BRYAN D. MURRAY Bryan D. Murray	Chief Financial Officer *(Principal Financial and Accounting Officer)*	February 18, 2020
/S/ LAURA J. DURR Laura J. Durr	Director	February 18, 2020
/S/ JEF T. GRAHAM Jef T. Graham	Director	February 18, 2020
/S/ BRADLEY L. MAIORINO Bradley L. Maiorino	Director	February 18, 2020
/S/ MAUREEN M. MERICLE Maureen M. Mericle	Director	February 18, 2020
/S/ JANICE M. ROBERTS Janice M. Roberts	Director	February 18, 2020
/S/ GREGORY J. ROSSMANN Gregory J. Rossmann	Director	February 18, 2020
/S/ BARBARA V. SCHERER Barbara V. Scherer	Director	February 18, 2020
/S/ THOMAS H. WAECHTER Thomas H. Waechter	Director	February 18, 2020

DESCRIPTION OF THE REGISTRANT'S SECURITIES

General

NETGEAR, Inc. (the "Company") is authorized to issue up to 200,000,000 shares of common stock, par value $0.001 per share (the "Common Stock"), and 5,000,000 shares of preferred stock, par value $0.001 per share (the "Preferred Stock"). As of February 17, 2020, the Common Stock was the sole class of securities of the Company registered pursuant to Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and no shares of Preferred Stock were outstanding.

The following description summarizes selected information regarding the Common Stock, as well as relevant provisions of (i) the Company's Amended and Restated Certificate of Incorporation, as currently in effect (the "Certificate of Incorporation"), (ii) the Company's Amended and Restated Bylaws, as currently in effect (the "Bylaws"), and (iii) the Delaware General Corporation Law (the "DGCL"). The following summary description of the Common Stock is qualified in its entirety by reference to the provisions of the Certificate of Incorporation and Bylaws, copies of which have been filed as exhibits to the Company's periodic reports under the Exchange Act, and the applicable provisions of the DGCL.

Common Stock

Listing. The Company's Common Stock is listed on the Nasdaq Global Select Market under the symbol "NTGR."

Dividend Rights. Subject to preferences that may apply to shares of Preferred Stock outstanding at the time, if any, the holders of outstanding shares of the Common Stock are entitled to receive dividends out of funds legally available if the board of directors, in its discretion, determines to issue dividends and only then at the times and in the amounts that the board of directors may determine.

Voting Rights. The holders of the Company's Common Stock are entitled to one vote per share. Stockholders do not have the ability to cumulate votes for the election of directors. The Certificate of Incorporation and Bylaws do not provide for a classified board of directors and, as a result, each director serves for a one-year term, and until his or her successor is elected, except in the case of death, resignation or removal of the director.

No Preemptive or Similar Rights. The Company's Common Stock is not entitled to preemptive rights and is not subject to conversion, redemption, or sinking fund provisions.

Right to Receive Liquidation Distributions. Upon the Company's dissolution, liquidation or winding-up, the assets legally available for distribution to the stockholders are distributable ratably among the holders of the Common Stock, subject to prior satisfaction of all outstanding debt and liabilities and the preferential rights and payment of liquidation preferences, if any, on any outstanding shares of Preferred Stock.

Preferred Stock

Under the Certificate of Incorporation, without further stockholder action, the board of directors is authorized to provide for the issuance of Preferred Stock in one or more series, to fix the number of shares of any such series, and to fix the designation of any such series as well as the powers, preferences, and rights and the qualifications, limitations, or restrictions of the Preferred Stock and to increase or decrease the number of shares of any such series (but not below the number of shares of such series then outstanding).

Anti-takeover Effects of Provisions of the Certificate of Incorporation and Bylaws and Delaware Law

Certificate of Incorporation and Bylaws Provisions. The Certificate of Incorporation and Bylaws include a number of provisions that may have the effect of deterring hostile takeovers or delaying or preventing changes in control of the Company's management team, including the following:

- *Board of Directors Vacancies*. The Bylaws authorize the board of directors to fill vacant directorships, including newly-created seats. In addition, the number of directors constituting the board of directors is set only by resolution adopted by a majority vote of the entire board of directors. These provisions prevent a stockholder from increasing the size of the board of directors and gaining control of the board of directors by filling the resulting vacancies with its own nominees.

- *Stockholder Action; Special Meeting of Stockholders*. The Certificate of Incorporation provides that stockholders are not able to take action by written consent and are only be able to take action at annual or special meetings of the stockholders. Stockholders are not permitted to cumulate their votes for the election of directors. The Certificate of Incorporation further provides that special meetings of the stockholders may be called at any time by the board of directors, or by the chairperson or lead independent director of the board, or by the chief executive officer or the president, or by holders of not less than 25% of all shares entitled to cast votes at the meeting.

- *Advance Notice Requirements for Stockholder Proposals and Director Nominations*. The Bylaws provide advance notice procedures for stockholders seeking to bring business before the annual meeting of stockholders, or to nominate candidates for election as directors at any meeting of stockholders. The Bylaws also specify certain requirements regarding the form and content of a stockholder's notice. These provisions may preclude the Company's stockholders from bringing matters before the annual meeting of stockholders or from making nominations for directors at the meetings of stockholders.

- *Issuance of Undesignated Preferred Stock*. The board of directors have the authority, without further action by the holders of Common Stock, to issue up to 5,000,000 shares of undesignated Preferred Stock with rights and preferences, including voting rights, designated from time to time by the board of directors. The existence of authorized but unissued shares of Preferred Stock enables the board of directors to render more difficult or to discourage an attempt to obtain control of the Company by means of a merger, tender offer, proxy contest, or otherwise.

Delaware Law. The Company is governed by the provisions of Section 203 of the DGCL regulating corporate takeovers. This section prevents some Delaware corporations from engaging, under some circumstances, in a business combination, which includes a merger or sale of at least 10% of the corporation's assets with any interested stockholder, meaning a stockholder who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of the corporation's outstanding voting stock, unless:

- the transaction is approved by the board of directors prior to the time that the interested stockholder became an interested stockholder;

- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (i) by persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

- subsequent to such time that the stockholder became an interested stockholder the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders by at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

A Delaware corporation may "opt out" of these provisions with an express provision in its original certificate of incorporation or an express provision in its certificate of incorporation or bylaws resulting from a stockholders' amendment approved by at least a majority of the outstanding voting shares. The Company has not opted out of these provisions. As a result, mergers, or other takeover or change in control attempts of the Company may be discouraged or prevented.

Exhibit 21.1

Subsidiaries and Affiliates of the Registrant

NETGEAR, Inc.
INFRANT TECHNOLOGIES LLC
NETGEAR (Beijing) Trading Co. Ltd.
SKIPJAM CORP
NETGEAR INTERNATIONAL, INC.
NETGEAR AUSTRIA GMBH
NETGEAR Belgium BVBA
NETGEAR DEUTSCHLAND GMBH
NETGEAR FRANCE SAS
NETGEAR HOLDINGS LTD (IRELAND)
NETGEAR INTERNATIONAL LTD
NETGEAR ASIA PTE. LIMITED (SINGAPORE BRANCH)
NETGEAR HONG KONG LIMITED
NETGEAR NEW ZEALAND
NETGEAR POLAND SP ZOO
NETGEAR SWITZERLAND GMBH
NETGEAR U.K. LTD
Netgear (Beijing) Network Technology Co., Ltd
Netgear Australia Pty Ltd.
NETGEAR JAPAN GK
NETGEAR NETHERLANDS B.V.
NETGEAR TAIWAN CO LTD
NETGEAR TECHNOLOGIES INDIA PRIVATE LIMITED
Netgear Asia Holdings Ltd.
Netgear Research India Pvt. Ltd.
Netgear Canada Ltd.
NETGEAR RUSSIA LLC
Meural, Inc.

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-107718, 333-136892, 333-136895, 333-151638, 333-160869, 333-168349, 333-181892, 333-196579, 333-211795, 333-225327, and 333-229784) of NETGEAR, Inc. of our report dated February 18, 2020 relating to the financial statements, financial statement schedule, and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
San Jose, California
February 18, 2020

EXHIBIT 31.1

CHIEF EXECUTIVE OFFICER CERTIFICATION

I, Patrick C.S. Lo, certify that:

1. I have reviewed this Annual Report on Form 10-K of NETGEAR, Inc. (the "Registrant");

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

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

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

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

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

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

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

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

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

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

Date: February 18, 2020

/s/ PATRICK C.S. LO

Patrick C.S. Lo
Chairman and Chief Executive Officer
NETGEAR, Inc.

EXHIBIT 31.2

CHIEF FINANCIAL OFFICER CERTIFICATION

I, Bryan D. Murray, certify that:

1. I have reviewed this Annual Report on Form 10-K of NETGEAR, Inc. (the "Registrant");

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

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

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

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

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

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

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

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

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

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

Date: February 18, 2020

/s/ BRYAN D. MURRAY

Bryan D. Murray
Chief Financial Officer
NETGEAR, Inc.

EXHIBIT 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEYACT OF 2002

In connection with the Annual Report of NETGEAR, Inc. (the “Company”) on Form 10-K for the year ended December 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Patrick C.S. Lo, Chairman and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 18, 2020

By: /s/ PATRICK C.S. LO
Patrick C.S. Lo
Chairman and Chief Executive Officer
NETGEAR, Inc.

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of this Form 10-K), irrespective of any general incorporation language contained in such filing.

EXHIBIT 32.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEYACT OF 2002

In connection with the Annual Report of NETGEAR, Inc. (the "Company") on Form 10-K for the year ended December 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Bryan D. Murray, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 18, 2020

By: /s/ BRYAN D. MURRAY
Bryan D. Murray
Chief Financial Officer
NETGEAR, Inc.

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of this Form 10-K), irrespective of any general incorporation language contained in such filing.