FORM S-1 · REGISTRATION STATEMENT

Aquantia Corp

IPO priced 2017-11-03 · $9.00 a share · AQ



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As filed with the Securities and Exchange Commission on October 6, 2017.

REGISTRATION NO. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

Aquantia Corp.

(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

Delaware	**3674**	**20-1199709**
(STATE OR OTHER JURISDICTION OF INCORPORATION OR ORGANIZATION)	(PRIMARY STANDARD INDUSTRIAL CLASSIFICATION CODE NUMBER)	(I.R.S. EMPLOYER IDENTIFICATION NUMBER)

Aquantia Corp.

105 E. TASMAN DRIVE

SAN JOSE, CALIFORNIA 95134

(408) 228-8300

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

FARAJ AALAEI

PRESIDENT AND CHIEF EXECUTIVE OFFICER

Aquantia Corp.

105 E. TASMAN DRIVE

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Approximate date of commencement of proposed sale to the public: As soon as practicable after this registration statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act, check the following box: ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐	Accelerated filer ☐	Non-accelerated filer ☒	Smaller reporting company ☐
	(Do not check if a small 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 7(a)(2)(B) of the Securities Act. ☒

CALCULATION OF REGISTRATION FEE

TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED	PROPOSED MAXIMUMAGGREGATEOFFERING PRICE(1)(2)	**Amount of Registration Fee**
Common Stock, $0.00001 par value per share	$86,250,000	$10,738.13

(1) Estimated solely for the purpose of computing the amount of the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended.

(2) Includes the aggregate offering price of additional shares that the underwriters have the option to purchase to cover over-allotments, if any.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

PROSPECTUS (Subject to Completion) Issued October 6, 2017 Shares COMMON STOCK ***This is the initial public offering of shares of common stock of Aquantia Corp. We are offering shares of our common stock. We anticipate that the initial public offering price will be between $ and $ per share.***

WE HAVE APPLIED TO HAVE OUR COMMON STOCK LISTED ON THE NEW YORK STOCK EXCHANGE UNDER THE SYMBOL “AQ.”

We are an “emerging growth company,” as defined under the federal securities laws, and are subject to reduced public company reporting requirements. Investing in our common stock involves risks. See “Risk Factors” beginning on page 16.

PRICE $ PER SHARE

	PRICE TO PUBLIC	UNDERWRITINGDISCOUNTS ANDCOMMISSIONS(1)	PROCEEDS TOAQUANTIA
Per share	$	$	$
Total	$	$	$

(1) See the section titled “Underwriting” for a description of the compensation payable to the underwriters.

We have granted the underwriters the right to purchase up to additional shares of common stock from us to cover over-allotments.

The Securities and Exchange Commission and state securities regulators have not approved or disapproved of these securities, or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The underwriters expect to deliver the shares of common stock to purchasers on , 2017.

MORGAN STANLEY	*BARCLAYS*	*DEUTSCHE BANK SECURITIES*
NEEDHAM & COMPANY		*RAYMOND JAMES*

, 2017

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Neither the company nor the underwriters have authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses we have prepared. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of shares of our common stock. Our business, financial condition, results of operations and prospects may have and are likely to have changed since that date.

Through and including , 2017 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to the obligation of dealers to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

For investors outside the United States: Neither the company nor the underwriters have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of our common stock and the distribution of this prospectus outside of the United States.

Prospectus Summary

PROSPECTUS SUMMARY *This summary highlights information contained elsewhere in this prospectus, and does not contain all of the information you should consider in making your investment decision. Before investing in our common stock, you should carefully read this entire prospectus, including our audited consolidated financial statements and related notes and the information set forth in the sections titled "Risk*

Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." Unless the context otherwise requires, the terms "Aquantia," "the company," "we," "us," and "our" in this prospectus refer to Aquantia Corp. and its subsidiaries.

AQUANTIA CORP.

Overview

We are a leader in the design, development and marketing of advanced high-speed communications integrated circuits, or ICs, for Ethernet connectivity in the data center, enterprise infrastructure and access markets. Our Ethernet solutions provide a critical interface between the high-speed analog signals transported over wired infrastructure and the digital information used in computing and networking equipment. Our products are designed to cost-effectively deliver leading-edge data speeds for use in the latest generation of communications infrastructure to alleviate network bandwidth bottlenecks caused by the exponential growth of global Internet Protocol, or IP, traffic. Many of our semiconductor solutions have established benchmarks in the industry in terms of performance, power consumption and density. Our innovative solutions enable our customers to differentiate their product offerings, position themselves to gain market share and drive the ongoing equipment infrastructure upgrade cycles in the data center, enterprise infrastructure and access markets.

Ethernet is a ubiquitous and evolving standard of network connectivity that is characterized by its reliability and backward compatibility, which enables easy upgrades and continuity of operation through upgrade cycles. One Gigabit Ethernet, or 1GbE, has been deployed as a mainstream wired connectivity standard for over a decade. However, 1GbE is increasingly insufficient to meet the bandwidth requirements that can accommodate the exponential growth of global IP traffic. As a result, the 1GbE infrastructure is currently undergoing an upgrade cycle that is driven by the need to alleviate bandwidth bottlenecks on the wired side of networking equipment, including the data center (servers and switches), the enterprise infrastructure (wireless access points, or APs, and switches), and the access (client connectivity for personal computers, or PCs, and carrier access) markets. Based on projections by Crehan Research Inc., or Crehan Research, 650 Group LLC, or 650 Group, IDC and Dell'oro Group, Inc., or Dell'oro, we estimate that across these markets, over one billion Ethernet ports will ship in 2017 and that this number will grow to 1.2 billion ports in 2020, representing a substantial opportunity for upgrade of the Ethernet physical layer, or PHY. In addition, we believe another new opportunity for Ethernet is emerging in the automotive market, as a result of increased investment in the development of autonomous vehicles, or self-driving cars. Historically, the transition to the next Ethernet generation has been led by the introduction of IC solutions that reliably and cost-effectively meet the new Ethernet standard. We believe that the current upgrade cycle will follow the same course.

As the data rate of PHY devices continues to increase, the technical challenges of designing high-speed communications ICs require a significantly new architectural approach. In order to meet next-generation performance requirements with low power consumption and a small footprint, our differentiated architecture combines our two fundamental innovations: Mixed-Mode Signal Processing, or MMSP, which partitions signal processing across analog and digital domains, and Multi-Core Signal Processing, or MCSP, which incorporates multiple customized units to more efficiently process digital signals. We also implement patented techniques in Analog Front-End, or AFE, algorithms, power management and programmability in the design of our products. Our next-generation Ethernet solutions have been developed by one of the most innovative design teams in the semiconductor industry, with deep expertise across multiple disciplines that range from analog and mixed-mode design to digital signal processing and communication theory. We have leveraged the expertise of our design team to achieve technological breakthroughs and bring what we believe to be best-in-class semiconductor solutions to market, anticipating the future technological needs of our customers and helping them shape their product roadmaps. Our best-in-class semiconductor solutions provide the functionalities that meet customers' requirements, as well as the relevant Institute of Electrical and Electronics Engineers, or IEEE, standard. For example, in 2012 we created a novel technology that we call AQrate, which has since been adopted by the IEEE as the baseline for the IEEE 802.3bz standard that was ratified in September 2016 as the industry specifications for 2.5GBASE-T and 5GBASE-T products made by different manufacturers to be compatible with each other. This technology is currently being deployed in the enterprise infrastructure and access markets.

We are a fabless semiconductor company. We have shipped more than 10 million ports to customers across three semiconductor process generations, and are currently in mass production in 28nm process node. 28nm and other silicon process geometries, such as 40nm and 90nm, refer to the size of the process node in nanometers for a particular semiconductor manufacturing process. Our target markets include ASICs and ASSPs for Data Processing and Communications across the following applications: Enterprise LAN and Wireless LAN Infrastructure; Server, 1/2/4+ CPU socket; Storage Network Infrastructure and DAS/FAS Storage; PC, desktop-based; Service Provider Routers and Switches. We estimate that our total addressable market opportunity across these target markets is $11.5 billion in 2017.

We estimate that our serviceable addressable market opportunity across our application-specific standard product, or ASSP, and application-specific integrated circuit, or ASIC, applications is approximately 100 million ports in 2020, based on projections by Crehan Research, 650 Group, IDC and Dell'oro, which we estimate would be equivalent to $800 million. Our end customers include Aruba (acquired by Hewlett-Packard Enterprise in 2015), Brocade, Cisco, Dell, Hewlett-Packard Enterprise, Huawei, IBM, Intel, Juniper, Oracle and Ruckus (acquired by Brocade in 2016). For the years ended December 31, 2014, 2015 and 2016 and the six months ended June 30,

2017, sales to Intel accounted for approximately 68%, 78%, 68% and 65% of our revenue, respectively. For the years ended December 31, 2014, 2015 and 2016, our revenue was $24.5 million, $80.8 million and $86.7 million, respectively, our net loss attributable to common stockholders was $27.8 million, $10.0 million and $0.4 million, respectively, and our non-GAAP net income (loss) was $(26.8) million, $1.3 million and $1.1 million, respectively. For the six months ended June 30, 2016 and 2017, our revenue was $41.4 million and $48.8 million, respectively, our net loss attributable to common stockholders was $0.7 million and $3.4 million, respectively, and our non-GAAP net loss was $0.3 million and $1.1 million, respectively. See the section titled "—Summary Consolidated Financial Data—Non-GAAP Financial Measures" below for additional information regarding non-GAAP financial measures and a reconciliation of non-GAAP financial measures to the most directly comparable GAAP financial measures.

Industry Opportunities

The migration of data to the cloud and the proliferation of mobile devices are continuously driving the need for faster wired connections in data center, enterprise infrastructure and access environments. The legacy infrastructure currently installed in these environments is primed for the next upgrade cycle. The data transported over wired connections can be transmitted either optically or electrically, and the transport protocol is typically based on the widely deployed Ethernet standard. Optical solutions are generally able to carry high-bandwidth traffic over long distances, but can be cost-prohibitive in short-distance applications that are typical of the data center, enterprise infrastructure and access environments. Electrical copper-based interconnects are generally less expensive than optical solutions due to their implementation in silicon. The most commonly deployed interconnect solution is based on twisted-pair copper cabling, commonly called Ethernet cable, or BASE-T. The 100-meter reach of BASE-T, its ease of deployment and its large installed base have made it the preferred medium in many information technology, or IT, environments. According to Crehan Research, approximately 80% of all connections currently are between switches and servers (the two main components of data center architecture), and 80% of those connections are electrical, resulting in electrical interconnect solutions accounting for more than 60% of data center connections. In 2016, the majority of all links in data center and enterprise environments were based on GbE, and 90% of all GbE links were based on twisted-pair copper cabling.

The increasing demand for faster connectivity in corporate data centers has led network engineers to consider upgrading from GbE to 10GbE, with the 10GBASE-T standard experiencing the fastest growth among existing 10GbE PHY options, due to its reach, lower cost and backward compatibility with earlier generations of Ethernet. Crehan Research projects that shipments of 10GBASE-T in data centers will reach 29 million ports in 2020, representing approximately 23% of all ports shipping to data centers that year and a compound annual growth rate, or CAGR, of 27% from 2017 through 2020.

Another class of data center, the "cloud data center" or "hyperscale data center" for the largest cloud data centers, is witnessing a major transformation. In this class of data center, due to impact of social media and video applications, data requests by remote clients typically generate multiple queries and are often retrieved from multiple sources in different servers. The resulting data traffic pattern is called East-West, as data flows back and forth between adjacent servers within the data center before exiting the data center, as opposed to a North-South traffic pattern, characteristic of corporate data centers, in which a remote client retrieves data from a single server in the data center. The impact of this new trend and topology is a dramatic increase in bandwidth requirements between servers and switches towards speeds as high as 100Gbps for very short connections. Crehan Research projects that, out of a total of approximately 130 million ports shipping to data centers in 2020, shipment of 100Gigabit Ethernet, or 100GbE, together with 25GbE and 50GbE, will reach 47 million ports, representing approximately 37% of all ports added to data centers that year and a CAGR of 87% from 2017 through 2020.

In the enterprise infrastructure, 1GbE over twisted-pair copper cabling, or 1000BASE-T, has been adopted as the preferred connectivity between PCs, wireless local-area networks, or WLANs, APs and Ethernet switches. This adoption has been facilitated by the ease of deployment of Ethernet cables in ceilings and walls, and the relatively low cost of 1000BASE-T-based networking equipment. Ethernet cables have been widely deployed in this segment of the market, representing more than 90% of the worldwide base of cables installed between 2003 and 2014. With the advent of 802.11ac and 802.11ax, the latest IEEE standards for WiFi pushing throughput up to 5Gbps, the wired 1GbE connectivity between WLAN APs and switches has become insufficient and the need for a Multi-Gigabit/s, or Multi-Gig, Ethernet wired connectivity solution has emerged, in both the enterprise and small and medium sized business, or SMB, environments. 650 Group projects that shipments of 2.5GBASE-T and 5GBASE-T in the enterprise infrastructure market will reach 57 million ports in 2020, representing a CAGR of 112% from 2017 through 2020. 650 Group also estimates that in 2020, 385 million ports in enterprise and small- and medium-sized businesses still will be 1GbE, representing a significant opportunity for growth for Multi-Gig.

In the access market, which consists of PC connectivity (or client connectivity) and carrier termination devices and gateway boxes used at home and in offices (or carrier access) the need to adopt the Multi-Gig solution has emerged. Despite the trends towards lighter and thinner machines such as notebooks and laptops, IDC projects that PCs will continue to be equipped with Ethernet ports for the foreseeable future, estimating that 194 million PCs, or approximately 80% of the total market, will ship with an Ethernet port by 2020, driven by enterprise buyers and gamers. Based on current adoption trends, we estimate that 10 million ports of Multi-Gig Ethernet, in the form of 2.5GBASE-T, 5GBASE-T and 10GBASE-T, will ship in 2020 as PC users transition to Multi-Gig. Inside PCs, the Ethernet PHY

device is typically integrated with a Media Access Control device, also referred to as the controller. We believe that integrated solutions combining both the PHY and the controller are likely to become the preferred choice of PC original equipment manufacturers. Our targeted carrier access market focuses on the last 100 meters between the carrier or service provider termination device, which is typically located in the basement of an apartment complex or the entry-door cabinet in an individual home, and the residential gateway box which is typically owned or leased by the consumer. As carriers and service providers deploy "last-mile" high bandwidth technologies, such as Passive Optical Network, or PON, Digital Subscriber Line, or DSL, and cable modem, the need has arisen to provide high-bandwidth, low-cost, easy-to-deploy solutions to connect termination devices and gateway boxes. The bandwidth requirement is now exceeding 1 Gbps in an increasing number of deployments, on distances that are typically within 100 meters between termination device and gateway box. In addition, we anticipate that the availability of Multi-Gig Ethernet on PCs, Network-Attach Storage, or NAS, as well as 802.11ac/ax WiFi extenders and wireless routers, will drive the need for gateways to migrate from 1GbE to Multi-Gig Ethernet on the local-area network, or LAN, side as well. Dell'oro projects that 74 million gateways will ship in 2020, representing a total of 370 million ports as gateways typically ship with five Ethernet ports per box. We estimate that seven million ports of Multi-Gig Ethernet will ship on the wide-area network, or WAN, and LAN sides of these gateways in 2020.

The automotive market is undergoing a transformation with the development of self-driving cars. Developing a fully autonomous vehicle requires innovation in the areas of image processing, fast and multi-dimensional decision-making processes, and deep learning, similar to some of the most advanced facial recognition algorithms or complex model simulations being handled by super computers in hyperscale data centers today. As a result, systems that are being contemplated by the car industry to deliver such capabilities will likely need high-speed signaling connecting together end points such as cameras and other sensors, processing units, and an array of switches for rich connectivity and redundancy. Ethernet is one of the most promising technologies to deliver the high-speed connectivity required for making the self-driving car a reality. The car environment has its own very stringent set of requirements such as low weight, low power consumption, limited electro-magnetic emissions and susceptibility, ability to support higher spread of environmental temperature, and low cost. In terms of connectivity, this matrix of requirements is well served by high-speed Multi-Gig Ethernet over copper cabling. The potential market opportunity is considerable. Raymond James estimates that the silicon content in autonomous vehicles will represent a $30 billion total addressable market by 2030. We are currently shipping products into this market but do not expect significant volume production to occur until 2019.

Challenges to the Adoption of 10GbE and Multi-Gig Ethernet over Copper Cabling

- ***Technical Challenges***. The continued increase in signal transmission speeds presents a number of technical challenges due to the significant impairments, such as attenuation, crosstalk and echo, suffered by the signal as it is transmitted over copper cabling. As transmission speeds increase beyond 1Gbps, the amount of processing required to be performed in the silicon layer to address these impairments increases correspondingly, leading to greater design complexity. In recent years, innovations in the areas of digital signal processing and semiconductor manufacturing have further advanced the use of copper cabling for high-speed data transmission.

- ***Power Consumption***. As the amount of processing performed in the silicon layer increases to address signal impairments, the power consumption of the entire PHY device also increases. In recent years, advancements in lithography and other manufacturing process technologies have allowed for significantly reduced transistor geometries, resulting in considerably lower power consumption per IC and a greater level of integration. Interconnect solutions based on 10GbE over copper cabling have benefited from these manufacturing advancements. For instance, first-generation solutions consumed up to 25W of power, requiring additional cooling technologies. Current generation solutions based on 28nm silicon reduce typical power to a couple of watts.

Nevertheless, addressing these technical challenges with conventional silicon architectures generally yields ICs that are inefficient and consume more power. We believe the design of complex signal processing solutions requires a novel architectural approach.

Our Solution

We have developed a differentiated architecture that leverages our deep technical design expertise to create integrated high-performance connectivity solutions that address the significant opportunities present in the data center, enterprise infrastructure and access markets. Our Ethernet PHY solutions provide a critical interface between the high-speed analog signals transported over wired infrastructure and the digital information used in computing and networking equipment. Our architecture combines our two fundamental innovations, MMSP and MCSP, as well as several other patented techniques in AFE design, algorithms, power management and programmability.

We initially used these core innovations in the development of 10GBASE-T PHY devices, and subsequently in custom ASICs for Intel that integrate our PHY devices with various elements of Intel's proprietary technologies. These custom ASICs are driving the transition to 10GbE networking from legacy 1GbE technology in corporate data center server applications.

More recently, we employed our fundamental PHY expertise to develop AQrate, our technology designed to improve transmission speeds from 1GbE to 5GbE over existing copper cabling infrastructure in the enterprise infrastructure and access market. Our Multi-Gig AQrate-based products are being deployed in WLAN APs and Enterprise/SMB switches.

Subsequently, we developed a Multi-Gig Ethernet controller and integrated it with our AQrate as well as our 10GBASE-T PHYs to deliver a size, power and cost-optimized solution for client connectivity in PCs for the access market. Our AQrate PHYs are also being integrated inside service provider gateways for deployment in the home to provide Multi-Gig speeds on the WAN side and in some cases also on the LAN side of the equipment.

We also developed a breakthrough 100GbE interconnect solution we call QuantumStream, leveraging on our core expertise and proprietary architecture. Our QuantumStream technology is capable of transporting data at a speed of 100Gbps over a single lane of copper cabling and is aimed at inter and intra rack connectivity of up to three meters, complementing longer reach optical connectivity solutions in hyperscale data centers and cloud computing environments. According to estimates by Crehan Research, this represents the majority of direct server and storage Ethernet network connections in hyperscale data centers.

We are currently developing solutions for Multi-Gig Ethernet over copper to serve the potential automotive market opportunity. We are also collaborating with several CPU/GPU chip manufacturers that specialize in artificial intelligence and complex processing for autonomous driving applications. We are currently shipping products into this market but do not expect significant volume production to occur until 2019.

Benefits We Provide to Our Customers

We believe our solutions provide our customers the following benefits:

- ***Performance***. The combination of our MMSP and MCSP innovations creates an architecture that is die-size optimized for high performance. These core processing units are responsible for correcting impairments suffered by the signal as it is transmitted over Ethernet cable for Multi-Gig and 10GBASE-T, or over backplanes and direct attach cable in the case of 100GbE. We believe our innovative, low cost implementation of these building blocks delivers quality and reliability that exceed industry standards. This translates into additional margin in the system design, allowing customers to meet or even surpass quality expectations of their end customers.

- ***Power***. We produce ICs that reduce complexity in the digital signal processing logic due, in part, to our novel MMSP architecture. Architectural innovations such as our MMSP have enabled our PHY ICs to

deliver low power consumption. For instance, our first generation PHY product was delivered at lower power in 90nm process node compared to similar products delivered by our competitors in 65nm process node. Additionally, since analog does not shrink through process scaling, and our architecture benefits from an intrinsically smaller design, we expect a sustainable and growing advantage as the design migrates to finer process geometries. We were the first to deliver a 28nm product to the market, and we endeavor to maintain our leadership position.

- ***Port Density***. Our proprietary analog architecture leads to small-footprint ICs. As we migrated our 10GbE solution to the 40nm process node, our higher density design allowed us to deliver the industry's first 10GBASE-T quad-port in a 25mm x 25mm package. We believe this small-size package enabled our customers, for the first time, to design a high-density 48-port switch platform in a single-row of chipsets, instead of the inefficient 2-row design that was previously used. In addition to high port-density Ethernet switching applications, our small-footprint IC solutions are being used in space-constrained products such as WLAN APs and computing platforms. Recently, we have also introduced the industry's smallest single-port 2.5GBASE-T, 5GBASE-T and 10GBASE-T PHY, designed on a 28nm process, with a footprint of 7mm x 11mm. Beside its application in space-constrained products such as WLAN APs and residential gateways, this IC was also designed in Aquantia-branded SFP+ pluggable modules supporting 2.5GBASE-T, 5GBASE-T and 10GBASE-T. These SFP+ products are currently being deployed in data center and enterprise-type switches and servers that have been shipped with empty SFP+ cages.

- ***Innovation and Customer Focus***. Given the technical challenges associated with developing high-speed PHY products, our customers typically rely on our technical expertise, deep understanding of the PHY market and execution track record to deliver them solutions. By anticipating future trends and demonstrating an in-depth understanding of our customers' evolving needs, we believe we have the ability to translate our ideas into innovative product concepts, which in turn enables our customers to deliver best-in-class products into their markets. We operate at a high level of responsiveness to our customers' needs due to our lean structure and process efficiency, and have a well-established track record of delivering on our customers' specifications from the first silicon order.

- ***High Quality***. To sustain our market leadership, we emphasize high quality across all of our product lines and continuously work to exceed customer expectations. Our high-volume customers report quality metrics on products we ship that are significantly higher than industry norms. We have been able to maintain this standard of high quality across three generations of standard CMOS process technology, most recently in 28nm process node.

Our Competitive Strengths

- ***Differentiated Technology Architecture***. We believe our connectivity solutions, many of which are protected with patents and our fundamental trade secrets around analog and mixed signal design, provide us with a significant competitive advantage across our target end markets. Our semiconductor solutions have repeatedly established benchmarks in the industry in terms of performance, power consumption and density. We believe our design techniques and technical innovations, including our MMSP and MCSP technology, enable us to successfully compete with and win designs against larger, more established peers. As of June 30, 2017, we had a total of 85 issued patents, 73 of which are U.S. patents, and 29 pending and provisional U.S. patent applications. We continue to invest in our core technology to stay ahead of the competition in the process node migration of our products.

- ***Top Industry Talent***. We believe the engineering and design talent of our employees is critical to our success. As of June 30, 2017, we employed 186 engineers with deep technical expertise in analog, digital signal processing and mixed-mode signal design, digital signal processing, communication theory and chip-level integration. Our highly talented team of engineers brings together expertise in

varied products, including Ethernet PHYs, high-speed serializer/deserializer, Ethernet switching, cellular networking, memory, microprocessors, programmable logic arrays, PLDs, and experience from across industry leaders, including AMD, Beceem, Broadcom, Centillium, Intel, LSI Logic, National Semiconductor, Philips and Samsung. We intend to continue to aggressively recruit and seek to retain talented engineering and design personnel.

- ***Consistent Long-Term Relationships with Leaders in Our Markets***. We have built significant long-term relationships with, and have developed our solutions for, industry leaders, including Intel, the leader in server microprocessors, and Cisco, the leader in networking infrastructure. We have repeatedly demonstrated our ability to address and preempt the technological challenges facing each of these customers and, as a result, we are designed into several of their respective current systems and their emerging products and architectures. Our key customers rely on our technologically advanced solutions to enable their end products to provide their customers with the highest performance and reliability while maintaining a low total cost of ownership. As such, we have built significant long-term relationships with our key customers that enable them to trust our ability to successfully execute to their internal roadmaps and meet the needs of their end customers.

- ***Market Insight and Vision***. We are deeply involved with our customers in defining next-generation technologies by leveraging our market knowledge and product expertise in the data center, enterprise infrastructure and access markets. We are helping shape our customers' roadmaps and product offerings to their end customers through our fundamental understanding of their technology cycles and product needs. We believe this has enabled us to anticipate market trends ahead of our competition, develop innovative technologies in existing markets and create new market opportunities.

- ***Track Record of Execution***. We believe we have demonstrated a track record of execution excellence by productizing existing technologies and bringing to market industry-defining technological developments. To date, we have shipped millions of data center-class ICs with our core communications technologies and have achieved more than 170 design wins for ASIC and PHY products across a variety of end markets with a growing number of existing and new customers. Similarly, we demonstrated our ability to bring an entirely new product to market with the successful development and launch of AQrate in the enterprise infrastructure and access markets. AQrate has been established as the technology leader through its adoption by the IEEE as the baseline for the IEEE 802.3bz standard for 2.5GBASE-T and 5GBASE-T products.

Our Strategy

Key elements of our strategy include:

- ***Expand Market Share with Leaders in Existing Markets***. Customers with which we have existing supplier relationships are continuously developing new products in existing and new application areas. These customers tend to be large multinational enterprises with significant annual budgets for IC purchases. We intend to increase our market share through our existing customer base by applying our design capabilities to new design programs and by continuing to foster deep relationships with these customers. We believe our product roadmaps will enhance our ability to win new business due to the fact that these new roadmaps have been developed in close collaboration with our existing customers. Further, these customers also typically include our products to develop their future product roadmaps.

- ***Sell to New Customers in Existing Markets***. We have successfully demonstrated a number of key benefits to our existing customers within certain applications and markets, such as the data center and enterprise infrastructure markets. We believe these customers' products have become more competitive as a direct result of using our solutions. We intend to work with other leading original equipment manufacturers in our existing markets to help them realize similar benefits by deploying our IC solutions.

- ***Broaden Product Portfolio to Target New Markets***. We intend to continue to develop new products that we can leverage across our core data center and enterprise infrastructure markets, and use to penetrate the access and other new markets. In particular, we believe that our core expertise, IP and product portfolio can be leveraged to continue to expand into the access market and to address connectivity needs in the automotive market, where technology requirements for autonomous driving vehicles will push the bandwidth for wired high-speed connectivity well beyond the 100 Mbps and 1Gbps currently being deployed.

- ***Continue to Enhance Key Technological Expertise***. We maintain three intertwining areas of technical expertise: analog and mixed-mode signal design, signal processing and algorithms, and Ethernet networking. Our engineers have a deep knowledge of Ethernet and data networking that enables us to assist our customers in driving their product roadmaps. We intend to invest in research and development to continue to drive industry leadership. To maintain our position as a technology leader, we intend to continue to leverage our deep market insight and product roadmap knowledge of our customers and our customers' customers to look ahead to new products and solutions.

Risks Associated with Our Business

Our business is subject to numerous risks, as more fully described in the section titled "Risk Factors" immediately following this prospectus summary. You should read these risks before you invest in our common stock. We may be unable, for many reasons, including those that are beyond our control, to implement our business strategy. In particular, risks associated with our business include, among others:

- We depend on a limited number of customers for a substantial majority of our revenue, and believe that our operating results for the foreseeable future will continue to depend on sales to Intel and Cisco, our two largest customers. If we fail to retain or expand our customer relationships or if our customers cancel or reduce their purchase commitments, our revenue would decline significantly.

- Our revenue and operating results have fluctuated in the past and may fluctuate from period to period in the future as a result of a variety of factors, many of which are beyond our control, including customer demand, our customer's end customer demand, which we refer to as "end-market", into which we have limited insight, product life cycles, market acceptance of our products and our customers' products and pricing, product cost and product mix. Fluctuations in our revenue and operating results could cause our stock price to fluctuate.
- Our success and future revenue depend on our ability to achieve design wins and to convince our current and prospective customers to design our products into their product offerings. If we do not continue to win designs or if our products are not designed into our customers' product offerings, our results of operations and business will be harmed.
- The success of our products is dependent on our customers' ability to develop products that achieve market acceptance, and our customers' failure to do so could negatively affect our business.
- Our target markets may not grow or develop as we currently expect, and if we fail to penetrate new markets, such as the access market, and scale successfully within those markets, our revenue and financial condition could be harmed.
- If we are not able to successfully introduce and ship in volume new products as our existing products near the end of their product lifecycle, our business and revenue will suffer.
- If we fail to accurately anticipate and respond to rapid technological change in the industries in which we operate, our ability to attract and retain customers could be impaired and our competitive position could be harmed.
- If we fail to compete effectively, we may lose or fail to gain market share, which could negatively impact our operating results and our business.
- We depend on third parties for our wafer, assembly and testing operations which exposes us to certain risks that may harm our business.

Emerging Growth Company Status

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act, or the JOBS Act, enacted in April 2012. We intend to take advantage of certain exemptions under the JOBS Act from various public company reporting requirements, including not being required to have our internal control over financial reporting audited by our independent registered public accounting firm pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a non-binding advisory vote on executive compensation and any golden parachute payments not previously approved. We may take advantage of these exemptions for up to five years or until we are no longer an "emerging growth company," whichever is earlier.

We have irrevocably elected not to avail ourselves of the provision of the JOBS Act that permits emerging growth companies to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies.

Corporate Information

We were incorporated in Delaware on January 27, 2004. Our principal executive offices are located at 105 E. Tasman Drive, San Jose, California 95134 and our telephone number is (408) 228-8300. Our corporate website address is *www.aquantia.com*. Information contained on or accessible through our website is not a part of this prospectus, should not be relied on in determining whether to make an investment decision, and the inclusion of our website address in this prospectus is an inactive textual reference only.

We have obtained or are in the process of obtaining registered trademarks for Aquantia, AQrate and QuantumStream. This prospectus contains references to our trademarks and to trademarks belonging to other entities. Solely for convenience, trademarks and trade names referred to in this prospectus, including logos, artwork and other visual displays, may appear without the ® or TM symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

The Offering

Common stock offered by us	shares

Over-allotment option offered by us	shares
Common stock to be outstanding after this offering	shares (shares if the underwriters exercise their over-allotment option in full)
Use of proceeds	We estimate that the net proceeds to us from this offering will be approximately $ million (or $ million if the underwriters exercise their over-allotment option in full), based on an assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus), and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We currently intend to use approximately $ million of the net proceeds we receive from this offering to prepay a portion of our outstanding indebtedness, though this may change due to market or other factors. We intend to use the remaining net proceeds from this offering primarily for general corporate purposes, including working capital, sales and marketing activities, product development, general and administrative matters, and capital expenditures, although we do not currently have any specific or preliminary plans with respect to use of proceeds for such purposes. We also may use a portion of the remaining net proceeds to acquire complementary businesses, products, services or technologies; however, we do not have agreements or commitments for any specific acquisitions at this time. See the section titled "Use of Proceeds."
Risk factors	You should read the section titled "Risk Factors" for a discussion of certain of the factors to consider carefully before deciding to purchase any shares of our common stock.
Directed share program	At our request, the underwriters have reserved up to shares of common stock, or up to % of the shares of common stock offered by this prospectus for sale, at the initial public offering price, to our directors, officers, certain employees, business associates, and friends and family of our directors and officers. The number of shares of common stock available for sale to the general public will be reduced to the extent these individuals purchase such reserved shares. Any reserved shares that are not so purchased will be offered by the underwriters to the general public on the same basis as the other shares offered by this prospectus.
Proposed NYSE trading symbol	"AQ"

The number of shares of our common stock to be outstanding after this offering is based on 25,503,080 shares of common stock outstanding as of June 30, 2017, and excludes:

- 3,882,957 shares of common stock issuable upon the exercise of outstanding stock options as of June 30, 2017, at a weighted-average exercise price of $4.44 per share;
- shares of our common stock reserved for future issuance under our 2017 Equity Incentive Plan, or the 2017 Plan, which will become effective upon the execution and delivery of the underwriting agreement for this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2017 Plan;
- shares reserved for future issuance under the 2017 Employee Stock Purchase Plan, or the ESPP. which will become effective upon the execution and delivery of the underwriting agreement for this offering;
- 2,340,816 shares of convertible preferred stock issuable upon the exercise of convertible preferred stock warrants (excluding our Series C-1 convertible preferred stock warrants) outstanding as of June 30, 2017, at a weighted-average exercise price of $1.03 per share, which warrants will convert into warrants to purchase 234,079 shares of common stock, at a weighted-average exercise price of $10.32 per share, immediately prior to the closing of the offering; and
- 3,006,088 shares of Series C-1 convertible preferred stock issuable upon the exercise of our Series C-1 convertible preferred stock warrant outstanding as of June 30, 2017, at an exercise price of $0.01 per share, which will convert into a warrant to purchase 350,069 shares of common stock, at an exercise price of $0.0858713 per share, immediately prior to the closing of this offering.

Unless otherwise indicated, all information contained in this prospectus assumes or gives effect to:

- the filing and effectiveness of our amended and restated certificate of incorporation and the adoption of our amended and restated bylaws upon the closing of this offering;
- a 1-for-10 reverse split of our common stock effected October 5, 2017;
- no exercise by the underwriters of their option to purchase up to additional shares of our common stock to cover over-allotments, if any;
- the automatic conversion of our convertible preferred stock warrants outstanding as of June 30, 2017 into warrants to purchase an aggregate of 584,148 shares of our common stock immediately prior to the closing of this offering and no exercise of these warrants; and

- the automatic conversion of all of our convertible preferred stock outstanding as of June 30, 2017 into an aggregate of 20,816,754 shares of our common stock immediately prior to the closing of this offering.

Summary Consolidated Financial Data

The summary consolidated statements of operations data presented below for the years ended December 31, 2014, 2015 and 2016 are derived from our audited consolidated financial statements included elsewhere in this prospectus. The summary consolidated statements of operations data presented below for the six months ended June 30, 2016 and 2017, and the consolidated balance sheet data as of June 30, 2017, are derived from our unaudited interim consolidated financial statements included elsewhere in this prospectus. The unaudited interim consolidated financial statements were prepared on a basis consistent with our audited consolidated financial statements and, in the opinion of management, include all adjustments of a normal, recurring nature that are necessary for the fair presentation of the financial statements. The following summary consolidated financial data have been updated to reflect the completion of the 1-for-10 reverse stock split of our common stock which was effective on October 5, 2017 and should be read together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that may be expected for any period in the future and our results for the six months ended June 30, 2017 are not necessarily indicative of the results to be expected for the full year.

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
	(in thousands, except share and per share data)				
Revenue	$24,500	$80,807	$86,675	$41,374	$48,807
Cost of revenue[(1)]	16,189	41,511	34,064	16,183	20,959
Gross profit	8,311	39,296	52,611	25,191	27,848
Operating expenses:					
Research and development[(1)]	27,343	25,262	36,553	17,301	20,944
Sales and marketing[(1)]	2,142	3,756	5,347	2,873	3,456
General and administrative[(1)]	4,403	6,284	7,124	3,796	4,475
Collaboration and development charge[(2)]	—	12,024	—	—	—
Total operating expenses	33,888	47,326	49,024	23,970	28,875
Income (loss) from operations	(25,577)	(8,030)	3,587	1,221	(1,027)
Other income (expense):					
Interest expense	(2,164)	(3,321)	(3,334)	(1,871)	(1,016)
Change in fair value of convertible preferred stock warrant liability	(15)	1,591	(544)	78	(1,700)
Other income, net	12	5	14	3	28
Total other income (expense)	(2,167)	(1,725)	(3,864)	(1,790)	(2,688)
Loss before income tax expense	(27,744)	(9,755)	(277)	(569)	(3,715)
Provision for (benefit from) income taxes	56	200	168	106	(358)
Net loss attributable to common stockholders and comprehensive loss	$(27,800)	$(9,955)	$(445)	$(675)	$(3,357)
Net loss per share attributable to common stockholders, basic and diluted[(3)]	$(24.83)	$(6.64)	$(0.10)	$(0.17)	$(0.74)
Weighted-average shares used to compute net loss per share, basic and diluted[(3)]	1,119,632	1,498,233	4,240,461	4,055,411	4,549,015
Pro forma net income (loss) per share attributable to common stockholders, basic and diluted[(3)]			$0.00		$(0.07)
Weighted-average shares used to compute pro forma net loss per share, basic[(3)]			24,074,289		24,697,392

Weighted-average shares used to compute pro forma net income per share, diluted[3]	28,465,903	24,697,392

(1) Stock-based compensation included in the consolidated statements of operations data above was as follows:

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
	(in thousands)				
Cost of revenue	$10	$19	$31	$15	$14
Research and development	382	373	489	206	293
Sales and marketing	36	71	95	46	64
General and administrative	430	329	324	182	178
Total	$858	$792	$939	$449	$549

(2) Collaboration and development charge represents the fair value of a fully vested warrant to purchase 9,756,160 shares of Series H convertible preferred stock issued to GLOBALFOUNDRIES U.S. Inc., which warrant was exercised in full on May 5, 2017. See Notes 2 and 18 to our audited consolidated financial statements included elsewhere in this prospectus.

(3) See Note 15 to our audited consolidated financial statements included elsewhere in this prospectus for an explanation of the calculations of our basic and diluted net loss per share attributable to common stockholders, pro forma net loss per share attributable to common stockholders, and the number of weighted-average shares used to compute the per share amounts.

	As of June 30, 2017		
	Actual	Pro Forma[1]	Pro Forma As Adjusted[2][3]
		(in thousands)	
Consolidated Balance Sheet Data:			
Cash and cash equivalents	$17,369	$17,369	$
Working capital	19,494	19,494	
Total assets	62,882	62,882	
Total debt	18,351	18,351	
Convertible preferred stock warrant liability	3,847	—	
Total liabilities	34,510	30,663	
Convertible preferred stock	210,269	—	
Total stockholders' deficit	(181,897)	32,219	

(1) The pro forma column gives effect to (1) the automatic conversion of all of our outstanding convertible preferred stock into 20,816,754 shares of our common stock immediately prior to the closing of this offering, (2) the automatic conversion of our convertible preferred stock warrants into warrants to purchase an aggregate of 584,148 shares of our common stock immediately prior to the closing of this offering, and (3) the filing and effectiveness of our amended and restated certificate of incorporation upon the closing of this offering.

(2) The pro forma as adjusted column gives effect to the pro forma adjustments described in footnote (1) above and gives further effect to (a) the sale of shares of common stock by us in this offering at an assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus), after deducting underwriting discounts and commissions and estimated offering expenses payable by us and (b) the application of approximately $ million of the net proceeds from this offering to prepay in full the outstanding indebtedness under our loan with Pinnacle Ventures L.L.C.

(3) Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus), would increase (decrease), each of cash and cash equivalents, working capital, total assets and total stockholders' (deficit) equity on a pro forma as adjusted basis by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each 1.0 million increase (decrease) in the number of shares offered by us as set forth on the cover page of this prospectus, would increase (decrease) each of our cash and cash equivalents, working capital, total asset and total stockholders' (deficit) equity on a pro forma as adjusted basis by approximately $ million, assuming no change in the assumed initial public offering price per share and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. The pro forma as adjusted information set forth in the table above is illustrative only and will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing.

Non-GAAP Financial Measures

We use the financial measures set forth below, which are non-GAAP financial measures, to help us analyze our financial results, establish budgets and operational goals for managing our business and to evaluate our performance. We also believe that the presentation of these non-GAAP financial measures in this prospectus provides an additional tool for investors to use in comparing our core business and results of operations over multiple periods with other companies in our industry, many of which present similar non-GAAP financial measures to investors. However, the non-GAAP financial measures presented in this prospectus may not be comparable to similarly titled measures reported by other companies due to differences in the way that these measures are calculated. The non-GAAP financial measures presented in this prospectus should not be considered as the sole measure of our performance and should not be considered in isolation from, or as a substitute for, comparable financial measures calculated in accordance with GAAP.

The information in the table below sets forth the non-GAAP financial measures that we use in this prospectus.

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
	(dollars in thousands)				
Non-GAAP net income (loss)	$(26,757)	$1,303	$1,071	$(288)	$(1,092)
Adjusted EBITDA	(22,819)	6,642	7,266	2,869	1,728
Adjusted EBITDA margin	(93%)	8%	8%	7%	4%

Non-GAAP Net Income (Loss). We define non-GAAP net income (loss) as net loss attributable to common stockholders reported on our consolidated statements of operations and comprehensive loss, excluding the impact of the following non-cash charges: stock-based compensation, a collaboration and development charge, change in fair value of convertible preferred stock warrant liability and amortization of acquired intangibles resulting from business combination. We have presented non-GAAP net income (loss) because we believe that the exclusion of these non-cash charges allows for a more relevant comparison of our results of operations to other companies in our industry.

Adjusted EBITDA and Adjusted EBITDA Margin. We define adjusted EBITDA as our net loss attributable to common stockholders excluding: (1) stock-based compensation; (2) depreciation and amortization; (3) interest expense; (4) a collaboration and development charge; (5) change in fair value of convertible preferred stock warrant liability; (6) other income, net; and (7) income tax expense. We define adjusted EBITDA margin as adjusted EBITDA divided by revenue. We have presented adjusted EBITDA and adjusted EBITDA margin because we believe they are important measures used by industry analysts and investors to compare our performance against that of our peer group and they provide a useful measure for period-to-period comparisons of our core operating performance.

Reconciliation of Non-GAAP Financial Measures

The following tables reconcile the most directly comparable GAAP financial measure to each of these non-GAAP financial measures.

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
	(in thousands, except share and per share data)				
Consolidated Statements of Operations Data:					
Non-GAAP Net Income (Loss):					
Net loss attributable to common stockholders	$(27,800)	$(9,955)	$(445)	$(675)	$(3,357)
Stock-based compensation	858	792	939	449	549
Amortization of acquired intangibles resulting from business combination	170	33	33	16	16
Change in fair value of convertible preferred stock warrant liability	15	(1,591)	544	(78)	1,700
Collaboration and development charge	—	12,024	—	—	—
Non-GAAP net income (loss)	$(26,757)	$1,303	$1,071	$(288)	$(1,092)
Adjusted EBITDA and Adjusted EBITDA Margin:					
Net loss attributable to common stockholders	$(27,800)	$(9,955)	$(445)	$(675)	$(3,357)
Stock-based compensation	858	792	939	449	549
Depreciation and amortization	1,900	1,856	2,740	1,199	2,206

Interest expense	2,164	3,321	3,334	1,871	1,016
Collaboration and development charge	—	12,024	—	—	—
Change in fair value of convertible preferred stock warrant liability	15	(1,591)	544	(78)	1,700
Other income, net	(12)	(5)	(14)	(3)	(28)
Provision for (benefit from) income taxes	56	200	168	106	(358)
Adjusted EBITDA	$(22,819)	$6,642	$7,266	$2,869	$1,728
Revenue	24,500	80,807	86,675	41,374	48,807
Adjusted EBITDA margin	(93)%	8%	8%	7%	4%

Risk Factors

RISK FACTORS *Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below, together with all of the other information in this prospectus, including our audited consolidated financial statements and related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations," before investing in our common stock. If any of the following risks are realized, in whole or in part, our business, financial condition, results of operations and prospects could be materially and adversely affected. In that event, the price of our common stock could decline, and you could lose part or all of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operation.*

Risks Related to Our Business and Our Industry

We depend on a limited number of customers for a substantial majority of our revenue. If we fail to retain or expand our customer relationships or if our customers cancel or reduce their purchase commitments, our revenue could decline significantly.

We derive a substantial majority of our revenue from a limited number of customers. We believe that our operating results for the foreseeable future will continue to depend on sales to Intel Corporation, or Intel, and Cisco Systems, Inc., or Cisco, our two largest customers. For the years ended December 31, 2014, 2015 and 2016 and the six months ended June 30, 2017, sales to Intel accounted for approximately 68%, 78%, 68% and 65% of our revenue, respectively. Substantially all of our sales to date, including sales to Intel and Cisco, have been made on a purchase order basis, which orders may be cancelled, changed or delayed with little or no notice or penalty. As a result of this customer concentration, our revenue could fluctuate materially and could be materially and disproportionately impacted by purchasing decisions of Intel, Cisco or any other significant customer. In the future, Intel, Cisco or any other significant customer may decide to purchase fewer units than they have in the past, may alter their purchasing patterns at any time with limited notice, or may decide not to continue to purchase our semiconductor solutions at all, any of which could cause our revenue to decline materially and materially harm our financial condition and results of operations. In addition, our relationships with existing customers may deter potential customers who compete with these customers from buying our semiconductor solutions. If we are unable to diversify our customer base, we will continue to be susceptible to risks associated with customer concentration.

Our revenue and operating results may fluctuate from period to period, which could cause our stock price to fluctuate.

Our revenue and operating results have fluctuated in the past and may fluctuate from period to period in the future due to a variety of factors, many of which are beyond our control. Factors relating to our business that may contribute to these fluctuations include the following factors, as well as other factors described elsewhere in this prospectus:

- customer demand and product life cycles;
- the receipt, reduction or cancellation of orders by customers;
- fluctuations in the levels of component inventories held by our customers, which have in the past caused significant fluctuations in our revenue;
- the gain or loss of significant customers;
- market acceptance of our products and our customers' products;
- our ability to develop, introduce and market new products and technologies on a timely basis;

- the timing and extent of product development costs;
- new product announcements and introductions by us or our competitors;
- our research and development costs and related new product expenditures;
- seasonality and fluctuations in sales by product manufacturers that incorporate our semiconductor solutions into their products;
- end-market demand into which we have limited insight, including cyclicality, seasonality and the competitive landscape;
- cyclical fluctuations in the semiconductor market;
- fluctuations in our manufacturing yields;
- significant warranty claims, including those not covered by our suppliers; and
- changes in our pricing, product cost and product mix.

As a result of these and other factors, you should not rely on the results of any prior quarterly or annual periods, or any historical trends reflected in such results, as indications of our future revenue or operating performance. Fluctuations in our revenue and operating results could cause our stock price to decline and, as a result, you may lose some or all of your investment.

We have an accumulated deficit and have incurred net losses in the past, and we may continue to incur net losses in the future.

As of June 30, 2017, we had an accumulated deficit of $195.6 million. We generated net losses of $27.8 million, $10.0 million and $0.4 million for the years ended December 31, 2014, 2015 and 2016, respectively and $3.4 million for the six months ended June 30, 2017. We may continue to incur net losses in the future.

Our success and future revenue depend on our ability to achieve design wins and to convince our current and prospective customers to design our products into their product offerings. If we do not continue to win designs or our products are not designed into our customers' product offerings, our results of operations and business will be harmed.

We sell our semiconductor solutions to customers who include our solutions in their hardware products. This selection process is typically lengthy and may require us to incur significant design and development expenditures and dedicate scarce engineering resources in pursuit of a single design win. If we fail to convince our current or prospective customers to include our products in their product offerings or fail to achieve a consistent number of design wins, our results of operations and business will be harmed.

Because of our extended sales cycle, our revenue in future years is highly dependent on design wins we are awarded today. It is typical that a design win today will not result in meaningful revenue until one year or later, if at all. For example, for the year ended December 31, 2016, substantially all of our revenue was derived from design wins for which revenue was first recognized more than 12 months ago. If we do not continue to win designs in the short term, our revenue in the following years will deteriorate.

Further, a significant portion of our revenue in any period may depend on a single product design win with a large customer. As a result, the loss of any key design win or any significant delay in the ramp of volume production of the customer's products into which our product is designed could adversely affect our financial condition and results of operations. We may not be able to maintain sales to our key customers or continue to secure key design wins for a variety of reasons, and our customers can stop incorporating our products into their product offerings with limited notice to us and suffer little or no penalty.

The loss of a key customer or design win, a reduction in sales to any key customer, a significant delay or negative development in our customers' product development plans, or our inability to attract new significant customers or secure new key design wins could seriously impact our revenue and materially and adversely affect our results of operations.

The success of our products is dependent on our customers' ability to develop products that achieve market acceptance, and our customers' failure to do so could negatively affect our business.

The success of our semiconductor solutions is heavily dependent on the timely introduction, quality and market acceptance of our customers' products incorporating our solutions, which may be impacted by factors beyond our control. Our customers' products are often very complex and subject to design complexities that may result in design flaws, as well as potential defects, errors and bugs. We have in the past been subject to delays and project cancellations as a result of design flaws in the products developed by our customers, changing

market requirements, such as the customer adding a new feature, or because a customer's product fails their end customer's evaluation or field trial. In other cases, customer products are delayed due to incompatible deliverables from other vendors. We incur significant design and development costs in connection with designing our products for customers' products that may not ultimately achieve market acceptance. If our customers discover design flaws, defects, errors or bugs in their products, or if they experience changing market requirements, failed evaluations or field trials, or incompatible deliverables from other vendors, they may delay, change or cancel a project, and we may have incurred significant additional development costs and may not be able to recoup our costs, which in turn would adversely affect our business and financial results.

Defects in our products could harm our relationships with our customers and damage our reputation.

Defects in our products may cause our customers to be reluctant to buy our products, which could harm our ability to retain existing customers and attract new customers and adversely impact our reputation and financial results. The process of identifying a defective or potentially defective product in systems that have been widely distributed may be lengthy and require significant resources. Further, if we are unable to determine the root cause of a problem or find an appropriate solution, we may delay shipment to customers. As a result, we may incur significant replacement costs and contract damage claims from our customers, and our reputation and financial results may be adversely affected.

Our target markets may not grow or develop as we currently expect, and if we fail to penetrate new markets and scale successfully within those markets, our revenue and financial condition would be harmed.

A substantial majority of our revenue for the years ended December 31, 2014, 2015 and 2016 and the six months ended June 30, 2017 was derived from the data center market. In 2014, we began introducing products for the enterprise infrastructure market and, in 2016, we began introducing products into the access market which serves the client connectivity and carrier access markets. We are currently developing solutions for Multi-Gig Ethernet over copper with major car manufacturers and Tier-1 suppliers in the automotive market. Any deterioration in these markets or reduction in capital spending to support these markets could lead to a reduction in demand for our products, which would adversely affect our revenue and results of operations. Further, if our target markets do not grow or develop in ways that we currently expect, demand for our technology may not materialize as expected, which would also negatively impact our business.

We may be unable to predict the timing or development of trends in these end markets with any accuracy and these trends may not be beneficial to us. If we fail to accurately predict market requirements or market demand for these solutions, our business will suffer. A market shift towards an industry standard that we may not support could significantly decrease the demand for our solutions. For example, we have invested significant resources in developing semiconductor solutions to address 2.5GbE and 5GbE operation over today's Cat5e and Cat6 cabling infrastructure. If these technologies are not adopted as an industry standard, our investment may not lead to future revenue.

Our future revenue growth, if any, will depend in part on our ability to expand within our existing markets, our ability to continue to penetrate newer markets, such as the access market which we entered in 2016, and our ability to enter into new markets, such as the automotive market. Each of these markets presents distinct and substantial challenges and risks and, in many cases, requires us to develop new customized solutions to address the particular requirements of that market. Meeting the technical requirements and securing design wins in any of these new markets will require a substantial investment of our time and resources. We cannot assure you that we will secure design wins from these or other new markets, or that we will achieve meaningful revenue from sales with these markets. If any of these markets do not develop as we currently anticipate or if we are unable to penetrate them and scale in them successfully, our projected revenue would decline.

If we are unable to manage our growth effectively, we may not be able to execute our business plan and our operating results and stock price could suffer.

In order to succeed in executing our business plan, we will need to manage our growth effectively as we make significant investments in research and development and sales and marketing, and expand our operations and infrastructure both domestically and internationally. In addition, in connection with operating as a public company, we will incur additional significant legal, accounting and other expenses that we did not incur as a private company. If our revenue does not increase to offset these increases in our expenses, we may not achieve or maintain profitability in future periods.

To manage our growth effectively, we must continue to expand our operations, engineering, financial accounting, internal management and other systems, procedures and controls. This may require substantial managerial and financial resources, and our efforts may not be successful. Any failure to successfully implement systems enhancements and improvements will likely have a negative impact on our ability to manage our expected growth, as well as our ability to ensure uninterrupted operation of key business systems and compliance with the rules and regulations applicable to public companies. If we are unable to manage our growth effectively, we may not be able to

take advantage of market opportunities or develop new semiconductor solutions, and we may fail to satisfy customer product or support requirements, maintain the quality of our solutions, execute our business plan or respond to competitive pressures, any of which could negatively affect our brand, results of operations and overall business.

The average selling prices of our products and of other products in our markets have decreased historically over time and may do so in the future, which could harm our revenue and gross margins.

The average selling prices of our products and of other semiconductor products in the markets we serve generally have decreased over time. Our revenue is derived from sales to large customers and, in some cases, we have agreed in advance to modest price reductions, generally over a period of time ranging from 18 months to five years, once the specified product begins to ship in volume. However, our customers may change their purchase orders and demand forecasts at any time with limited notice due in part to fluctuating end-market demand, which can sometimes lead to price renegotiations. Although these price renegotiations can sometimes result in the average selling prices fluctuating over the shorter term, we expect average selling prices generally to decline over the longer term as our products mature.

We seek to offset the anticipated reductions in our average selling prices by reducing the cost of our products through improvements in manufacturing yields and lower wafer, assembly and testing costs, developing new products, enhancing lower-cost products on a timely basis and increasing unit sales. However, if we are unable to offset these anticipated reductions in our average selling prices, our results of operations, cash flows and overall business could be negatively affected.

If we are not able to successfully introduce and ship in volume new products as our existing products near the end of their product lifecycle, our business and revenue will suffer.

We have developed products that we anticipate will have product life cycles of 10 years or more, as well as other products in more volatile high growth or rapidly changing areas, which may have shorter life cycles. Our future success depends, in part, on our ability to develop and introduce new technologies and products that generate new sources of revenue to replace, or build upon, existing revenue streams that may be dependent upon limited product life cycles. If we are unable to repeatedly introduce, in successive years, new products that ship in volume, or if our transition to these new products does not successfully occur prior to any decrease in revenue from our prior products, our revenue will likely decline significantly and rapidly.

Our gross margins may fluctuate due to a variety of factors, which could negatively impact our results of operations and our financial condition.

Our gross margins may fluctuate due to a number of factors, including customer and product mix, market acceptance of our new products, timing and seasonality of the end-market demand, yield, wafer pricing, competitive pricing dynamics and geographic and market pricing strategies.

Further, because we are so dependent on a few large customers, these customers have significant leverage with respect to negotiating pricing and other terms with us and may put downward pressure on our margins. To attract new customers or retain existing customers, we have in the past and will in the future offer certain customers favorable prices, which would decrease our average selling prices and likely impact gross margins. Further, we may also offer pricing incentives to our customers on earlier generations of products that inherently have a higher cost structure, which would negatively affect our gross margins.

Because we do not operate our own manufacturing, assembly or testing facilities, we may not be able to reduce our costs as rapidly as companies that operate their own facilities, and our costs may even increase, which could further reduce our gross margins. We rely primarily on obtaining yield improvements and volume-based cost reductions to drive cost reductions in the manufacture of existing products, introducing new products that incorporate advanced features and optimize die size, and other price and performance factors that enable us to increase revenue while maintaining gross margins. To the extent that such cost reductions or revenue increases do not occur in a timely manner, our financial condition and results of operations could be adversely affected.

In addition, we maintain inventory of our products at various stages of production and in finished good inventory. We hold these inventories in anticipation of customer orders. If those customer orders do not materialize, we may have excess or obsolete inventory which we would have to reserve or write off, and our gross margins would be adversely affected.

Our customers require our products and our third-party contractors to undergo a lengthy and expensive qualification process which does not assure product sales. If we are unsuccessful or delayed in qualifying any of our products with a customer, our business and operating results would suffer.

Prior to purchasing our semiconductor solutions, our customers require that both our solutions and our third-party contractors undergo extensive qualification processes, which involve testing of our products in the customers' systems, as well as testing for reliability. This qualification process may continue for several months. However, qualification of a product by a customer does not assure any sales of the product to that customer. Even after successful qualification and sales of a product to a customer, a subsequent revision in our third-party contractors' manufacturing process or our selection of a new supplier may require a new qualification process with our customers, which may result in delays and in our holding excess or obsolete inventory. After our products are qualified, it can take several months or more

before the customer commences volume production of components or systems that incorporate our products. Despite these uncertainties, we devote substantial resources, including design, engineering, sales, marketing and management efforts, to qualifying our products with customers in anticipation of sales. If we are unsuccessful or delayed in qualifying any of our products with a customer, sales of those products to the customer may be precluded or delayed, which would cause our business and operating results to suffer.

We may be subject to warranty or product liability claims, which could result in unexpected expenses and loss of market share.

From time to time, we may be subject to warranty or product liability claims that may require us to make significant expenditures to defend those claims, replace our solutions, refund payments or pay damage awards. We generally agree to indemnify our customers for defects in our products.

If a customer's equipment fails in use, the customer may incur significant monetary damages, including an equipment recall or associated replacement expenses as well as lost revenue. The customer may claim that a defect in our product caused the equipment failure and assert a claim against us to recover monetary damages. In certain situations, circumstances might warrant that we consider incurring the costs or expense related to a recall of one of our products in order to avoid the potential claims that may be raised should a customer reasonably rely upon our product and suffer a failure due to a design or manufacturing process defect. In addition, the cost of defending these claims and satisfying any arbitration award or judgment with respect to these claims would result in unexpected expenses and could harm our business prospects. Although we carry product liability insurance, this insurance is subject to significant deductibles and may not adequately cover our costs arising from defects in our products or otherwise.

If we fail to accurately anticipate and respond to rapid technological change in the industries in which we operate, our ability to attract and retain customers could be impaired and our competitive position could be harmed.

We operate in industries characterized by rapidly changing technologies as well as technological obsolescence. The introduction of new products by our competitors, the delay or cancellation of any of our customers' product offerings for which our semiconductor solutions are designed, the market acceptance of products based on new or alternative technologies or the emergence of new industry standards could render our existing or future products uncompetitive, obsolete and otherwise unmarketable. Our failure to anticipate or timely develop new or enhanced products or technologies in response to changing market demand, whether due to technological shifts or otherwise, could result in the loss of customers and decreased revenue and have an adverse effect on our operating results.

If our products do not conform to, or are not compatible with, existing or emerging industry standards, demand for our existing solutions may decrease, which in turn would harm our business and operating results.

We design certain of our products to conform to current industry standards. Some industry standards may not be widely adopted or implemented uniformly, and competing standards may emerge that may be preferred by our customers or by our third-party suppliers. In addition, existing standards may be challenged as infringing upon the intellectual property rights of other companies or may be superseded by new innovations or standards.

Our ability to compete in the future will depend on our ability to identify and ensure compliance with evolving industry standards in our target markets, including in the data center and enterprise infrastructure markets. The emergence of new industry standards could render our products incompatible with products developed by third-party suppliers or make it difficult for our products to meet the requirements of certain original equipment manufacturers, or OEMs. If our customers or our third-party suppliers adopt new or competing industry standards with which our solutions are not compatible, or if industry groups fail to adopt standards with which our solutions are compatible, our products would become less desirable to our current or prospective customers. As a result, our sales would suffer, and we could be required to make significant expenditures to develop new solutions.

Although we believe our products are fully compliant with applicable industry standards, proprietary enhancements may not in the future result in full conformance with existing industry standards under all circumstances. Due to the interdependence of various components in the systems within which our products and the products of our competitors operate, once a design is adopted, customers are unlikely to switch to another design until the next generation of the applicable technology. For example, we have developed our AQrate technology, which is designed to address 2.5GbE and 5GbE operation over today's Cat5e and Cat6 cabling infrastructure. If this semiconductor solution fails to meet the needs of our customers or penetrate new markets in a timely fashion, and does not gain acceptance, we may not maintain or may lose market share and our competitive position, and operating results will be adversely affected.

We may experience difficulties demonstrating the value to customers of newer solutions if they believe existing solutions are adequate to meet end customer expectations. If we are unable to sell new generations of our product, our business would be harmed.

As we develop and introduce new solutions, we face the risk that customers may not value or be willing to bear the cost of incorporating these newer solutions into their product offerings, particularly if they believe their customers are satisfied with those current offerings. Regardless of the improved features or superior performance of the newer solutions, customers may be unwilling to adopt our new

solutions due to design or pricing constraints. Because of the extensive time and resources that we invest in developing new solutions, if we are unable to sell customers new generations of our solutions, our revenue could decline and our business, financial condition, results of operations and cash flows would be negatively affected.

We depend on our executive officers and other key employees, and the loss of one or more of these employees or an inability to attract and retain highly skilled employees could adversely affect our business.

Our success depends largely upon the continued services of our executive officers and other key employees, including our design and technical personnel. From time to time, there may be changes in our executive management team or other key personnel, which could disrupt our business. We do not have employment agreements with our executive officers or other key personnel that require them to continue to work for us for any specified period and, therefore, they could terminate their employment with us at any time. The loss of one or more of our senior executive officers or other key employees could have an adverse effect on our business.

In addition, to execute our growth plan, we must attract and retain highly qualified personnel. Competition for these personnel in the San Francisco Bay Area, where our headquarters is located, and in other locations where we maintain offices, is intense, especially for engineers experienced in designing and developing semiconductor solutions. We have from time to time experienced, and we expect to continue to experience, difficulty in hiring and retaining employees with appropriate qualifications. Many of the companies with which we compete for experienced personnel have greater resources than we have. If we hire employees from competitors or other companies, their former employers may attempt to assert that these employees or we have breached legal obligations, resulting in a diversion of our time and resources if we respond to them. In addition, job candidates and existing employees often consider the value of the equity awards they receive in connection with their employment. If the perceived value of our equity awards declines, it may adversely affect our ability to recruit and retain highly skilled employees. If we fail to attract new personnel or fail to retain and motivate our current personnel, our business and future growth prospects could be adversely affected.

We may be unable to make the substantial investments that are required to remain competitive in our business.

The semiconductor industry requires substantial and continuous investment in research and development in order to bring to market new and enhanced solutions. Our research and development expenses were $27.3 million, $25.3 million and $36.6 million for the years ended December 31, 2014, 2015 and 2016, respectively and $20.9 million for the six months ended June 30, 2017. We expect to increase our research and development expenditures compared to prior periods as part of our strategy to increase demand for our solutions in our current markets and to expand into additional markets. We are a smaller company with limited resources, and we may not have sufficient resources to maintain the level of investment in research and development required to remain competitive. In addition, we cannot assure you that the technologies, which are the focus of our research and development expenditures, will become commercially successful or generate any revenue.

If we fail to compete effectively, we may lose or fail to gain market share, which could negatively impact our operating results and our business.

The global semiconductor market in general, and the data center and enterprise communications markets in particular, is highly competitive. We compete in our target markets on the basis of a number of competitive factors. We expect competition to increase and intensify as additional semiconductor companies enter our target markets, and as internal silicon design resources of large OEMs grow. Increased competition could result in price pressure, reduced gross margins and loss of market share, any of which could harm our business, revenue and results of operations. Our competitors range from large, international companies offering a wide range of semiconductor products to smaller companies specializing in narrow market verticals. In the markets we serve, our primary competitors are Broadcom and Marvell. We expect competition in our current markets to increase in the future as existing competitors improve or expand their product offerings and as new competitors enter these markets. In addition, our future growth will depend in part on our ability to successfully enter and compete in new markets, such as the access market. Some of these markets will likely be served by only a few large, multinational OEMs with substantial negotiating and buying power relative to us and, in some instances, with internally developed silicon solutions that can be competitive to our products.

Our ability to compete successfully depends, in part, on factors that are outside of our control, including industry and general economic trends. Many of our competitors are substantially larger, have greater financial, technical, marketing, distribution, customer support and other resources, are more established than we are and have significantly better brand recognition and broader product offerings, which may enable them to better withstand adverse economic or market conditions in the future and reduce their pricing so as to compete against us. Our ability to compete successfully will depend on a number of factors, including:

- our ability to define, design and regularly introduce new products that anticipate the functionality and integration needs of our customers' next-generation products and applications;
- our ability to build strong and long-lasting relationships with our customers and other industry participants;

- our ability to capitalize on, and prevent losses due to, vertical integration by significant customers, including Intel and Cisco;
- our solutions' performance and cost-effectiveness relative to those of competing products;
- the effectiveness and success of our customers' products utilizing our solutions within their competitive end markets;
- our research and development capabilities to provide innovative solutions and maintain our product roadmap;
- the strength of our sales and marketing efforts, and our brand awareness and reputation;
- our ability to deliver products in volume on a timely basis at competitive prices;
- our ability to build and expand international operations in a cost-effective manner;
- our ability to protect our intellectual property and obtain intellectual property rights from third parties that may be necessary to meet the evolving demands of the market;
- our ability to promote and support our customers' incorporation of our solutions into their products;
- our ability to continue to develop products at each new technology node; and
- our ability to retain high-level talent, including our management team and engineers.

Our competitors may also establish cooperative relationships among themselves or with third parties or may acquire companies that provide similar products to ours. As a result, new competitors or alliances may emerge that could capture significant market share. Any of these factors, alone or in combination with others, could harm our business and result in a loss of market share and an increase in pricing pressure. In addition, a number of our competitors are able to sell their solutions through multiple channels, including through distributors and third-party sales organizations, while we rely primarily on direct sales, which may provide our competitors with a strategic advantage in sales of their solutions and could harm our prospects and business.

We depend on third parties for our wafer, assembly and testing operations, which exposes us to certain risks that may harm our business.

We operate an outsourced manufacturing business model. As a result, we rely on third parties for all of our manufacturing operations, including wafer fabrication, assembly and testing. Although we use multiple third-party supplier sources, we depend on these third parties to supply us with material of a requested quantity in a timely manner that meets our standards for yield, cost and manufacturing quality. We do not have any long-term supply agreements with any of our manufacturing suppliers. These third-party manufacturers often serve customers that are larger than us or require a greater portion of their services, which may decrease our relative importance and negotiating leverage with these third parties.

If market demand for wafers or production and assembly materials increases, or if a supplier of our wafers ceases or suspends operations, our supply of wafers and other materials could become limited. We currently rely on Taiwan Semiconductor Manufacturing Company, or TSMC, for most of our semiconductor wafer production, and any disruption in their supply of wafers or any increases in their wafer or materials prices could adversely affect our gross margins and our ability to meet customer demands in a timely manner, or at all, and lead to reduced revenue. Moreover, wafers constitute a large portion of our product cost. If we are unable to purchase wafers at favorable prices, our gross margins would be adversely affected.

To ensure continued wafer supply, we may be required to establish alternative wafer supply sources, which could require significant expenditures and limit our negotiating leverage. We currently rely on TSMC as our primary foundry; and only a few foundry vendors have the capability to manufacture our most advanced solutions. If we engage alternative supply sources, we may encounter start-up difficulties and incur additional costs. In addition, shipments could be significantly delayed while these sources are qualified for volume production.

Certain of our manufacturing facilities are located outside of the United States, where we are subject to increased risk of political and economic instability, difficulties in managing operations, difficulties in enforcing contracts and our intellectual property, and employment and labor difficulties. Any of these factors could result in manufacturing and supply problems, and delays in our ability to provide our solutions to our customers on a timely basis, or at all. If we experience manufacturing problems at a particular location, we may be required to transfer manufacturing to a new location or supplier. Converting or transferring manufacturing from a primary location or supplier to a backup facility could be expensive and could take several quarters or more. During such a transition, we would be required to meet

customer demand from our then-existing inventory, as well as any partially finished goods that could be modified to the required product specifications. We do not seek to maintain sufficient inventory to address a lengthy transition period because we believe it is uneconomical to keep more than minimal inventory on hand and because semiconductors are subject to a rapid obsolescence timeline. As a result, we may not be able to meet customer needs during such a transition, which could damage our customer relationships.

If one or more of these vendors terminates its relationship with us, or if we encounter any problems with our manufacturing supply chain, our ability to ship our solutions to our customers on time and in the quantity required would be adversely affected, which in turn could cause an unanticipated decline in our sales and loss of customers.

If the foundries that we employ do not achieve satisfactory yields or quality, our reputation and customer relationships could be harmed.

We depend on satisfactory foundry manufacturing capacity, wafer prices and production yields, as well as timely wafer delivery to meet customer demand and maintain gross margins. The fabrication of our products is a complex and technically demanding process. Minor deviations in the manufacturing process can cause substantial decreases in yields and, in some cases, cause production to be suspended. Our foundry vendors may experience manufacturing defects and reduced manufacturing yields from time to time. Further, any new foundry vendors we employ may present additional and unexpected manufacturing challenges that could require significant management time and focus. Changes in manufacturing processes or the inadvertent use of defective or contaminated materials by the foundries that we employ could result in lower than anticipated production yields or unacceptable performance of our devices. Many of these problems are difficult to detect at an early stage of the manufacturing process and may be time consuming and expensive to correct. Poor production yields from the foundries that we employ, or defects, integration issues or other performance problems in our solutions could significantly harm our customer relationships and financial results, and give rise to financial or other damages to our customers. Any product liability claim brought against us, even if unsuccessful, would likely be time consuming and costly to defend.

We rely on our relationships with industry and technology leaders to enhance our product offerings and our inability to continue to develop or maintain such relationships in the future would harm our ability to remain competitive.

We develop many of our semiconductor products for applications in systems that are driven by industry and technology leaders in the communications and computing markets. We work with IC suppliers, OEMs, system manufacturers and standards bodies, such as the Institute of Electrical and Electronics, or IEEE, and the NBASE-T Alliance, to define industry conventions and standards within our target markets. For example, AQrate has been established as the technology leader through its adoption by the IEEE as the baseline for the IEEE 802.3bz standard for 2.5GBASE-T and 5GBASE-T products. We believe that these relationships enhance our ability to achieve market acceptance and widespread adoption of our products. If we are unable to continue to develop or maintain these relationships, our semiconductor solutions could become less desirable to our customers, our sales could suffer and our competitive position could be harmed.

We are subject to the cyclical nature of the semiconductor industry.

The semiconductor industry is highly cyclical and is characterized by constant and rapid technological change, rapid product obsolescence, price erosion, evolving standards, short product life cycles and wide fluctuations in product supply and demand. The industry experienced a significant downturn during the most recent global recession. These downturns have been characterized by diminished product demand, production overcapacity, high inventory levels and accelerated erosion of average selling prices. Any future downturns in the semiconductor industry could harm our business and operating results. Furthermore, any significant upturn in the semiconductor industry could result in increased competition for access to third-party foundry and assembly capacity. We are dependent on the availability of this capacity to manufacture and assemble our products and we can provide no assurance that adequate capacity will be available to us in the future.

Deterioration of the financial conditions of our customers could adversely affect our operating results.

The deterioration of the financial condition of our customers could adversely impact our collection of accounts receivable. We regularly review the collectability and creditworthiness of our customers to determine an appropriate allowance for doubtful accounts. Based on our review of our customers, substantially all of which are very large IC Suppliers, OEMs, we currently have no reserve for doubtful accounts. If our doubtful accounts, however, were to exceed our current or future allowance for doubtful accounts, our operating results would be adversely affected.

In preparing our consolidated financial statements, we make good faith estimates and judgments that may change or turn out to be erroneous, which could adversely affect our operating results for the periods in which we revise our estimates or judgments.

In preparing our consolidated financial statements in conformity with U.S. generally accepted accounting principles, or GAAP, we must make estimates and judgments in applying our most critical accounting policies. Those estimates and judgments have a significant impact on the results we report in our consolidated financial statements. The most difficult estimates and subjective judgments that we make relate to revenue recognition, inventories, stock-based compensation and income taxes. We base our estimates on historical experience,

input from outside experts and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. We also have other key accounting policies that are not as subjective, and therefore, their application would not require us to make estimates or judgments that are as difficult, but which nevertheless could significantly affect our financial reporting. Actual results may differ materially from these estimates. If these estimates, judgments or their related assumptions change, our operating results for the periods in which we revise our estimates, judgments or assumptions could be adversely and perhaps materially affected.

Changes to financial accounting standards may affect our results of operations and could cause us to change our business practices.

We prepare our consolidated financial statements to conform to GAAP. These accounting principles are subject to interpretation by the Financial Accounting Standards Board, the Securities and Exchange Commission, or the SEC, and various bodies formed to interpret and create accounting rules and regulations. Changes in accounting rules can have a significant effect on our reported financial results and may affect our reporting of transactions completed before a change is announced. Changes to those rules or the questioning of current practices may adversely affect our financial results or the way we conduct our business.

Our loan agreements contain certain restrictive covenants that may limit our operating flexibility.

Our loan agreements contain certain restrictive covenants that either limit our ability to, or require a mandatory prepayment in the event that we incur additional indebtedness or liens, merge with other companies or consummate certain changes of control, acquire other companies, make certain investments, pay dividends, transfer or dispose of assets, amend certain material agreements or enter into various specified transactions. Our obligations under the loan agreements are secured by all of our property, with limited exceptions. We may not be able to generate sufficient cash flow or sales to pay the principal and interest under our outstanding debt obligations. Furthermore, our future working capital, borrowings, or equity financing could be unavailable to repay or refinance the amounts outstanding under our current debt obligations. In the event of a liquidation, our existing and any future lenders would be repaid all outstanding principal and interest prior to distribution of assets to unsecured creditors, and the holders of our common stock would receive a portion of any liquidation proceeds only if all of our creditors, including our existing and any future lenders, were first repaid in full.

We may not be able to accurately predict our future capital needs, and we may not be able to obtain additional financing to fund our operations.

We may need to raise additional funds in the future. Any required additional financing may not be available on terms acceptable to us, or at all. If we raise additional funds by issuing equity securities or convertible debt, investors may experience significant dilution of their ownership interest, and the newly-issued securities may have rights senior to those of the holders of our common stock. If we raise additional funds by obtaining loans from third parties, the terms of those financing arrangements may include negative covenants or other restrictions on our business that could impair our operational flexibility and would also require us to incur interest expense. If additional financing is not available when required or is not available on acceptable terms, we may have to scale back our operations or limit our production activities, and we may not be able to expand our business, develop or enhance our solutions, take advantage of business opportunities or respond to competitive pressures, which could negatively impact our revenue and the competitiveness of our products.

We may make acquisitions in the future that could disrupt our business, cause dilution to our stockholders, reduce our financial resources and harm our business.

In the future, we may acquire other businesses, products or technologies. Our ability to make acquisitions and successfully integrate personnel, technologies or operations of any acquired business is unproven. If we complete acquisitions, we may not achieve the combined revenue, cost synergies or other benefits from the acquisition that we anticipate, strengthen our competitive position or achieve our other goals in a timely manner, or at all, and these acquisitions may be viewed negatively by our customers, financial markets or investors. In addition, any acquisitions we make lead to difficulties in integrating personnel, technologies and operations from the acquired businesses and in retaining and motivating key personnel. Acquisitions may disrupt our ongoing operations, divert management from their primary responsibilities, subject us to additional liabilities, increase our expenses and adversely impact our business, results of operations, financial condition and cash flows. Acquisitions may also reduce our cash available for operations and other uses, and could result in an increase in amortization expense related to identifiable assets acquired, potentially dilutive issuances of equity securities or the incurrence of debt, any of which could harm our business.

A portion of our operations is located outside of the United States, which subjects us to additional risks, including increased complexity and costs of managing international operations and geopolitical instability.

We outsource the manufacturing of all of our products to third parties that are primarily located in Asia. In addition, we have research and development design centers in Canada, India, the Netherlands and Russia, and we expect to continue to conduct business with companies that are located outside the United States, particularly in Eastern Europe and Asia. As a result of our international focus, we face numerous challenges and risks, including:

- complexity and costs of managing international operations, including manufacture, assembly and testing of our products;

- geopolitical and economic instability and military conflicts;
- limited protection of our intellectual property and other assets;
- compliance with local laws and regulations and unanticipated changes in local laws and regulations, including tax laws and regulations;
- trade and foreign exchange restrictions and higher tariffs;
- timing and availability of import and export licenses and other governmental approvals, permits and licenses, including export classification requirements;
- foreign currency fluctuations and exchange losses relating to our international operating activities;
- restrictions imposed by the U.S. government or foreign governments on our ability to do business with certain companies or in certain countries as a result of international political conflicts and the complexity of complying with those restrictions;
- transportation delays and other consequences of limited local infrastructure, and disruptions, such as large scale outages or interruptions of service from utilities or telecommunications providers;
- difficulties in staffing international operations;
- local business and cultural factors that differ from our normal standards and practices;
- differing employment practices and labor relations;
- heightened risk of terrorist acts;
- regional health issues, travel restrictions and natural disasters; and
- work stoppages.

Fluctuations in exchange rates between and among the currencies of the countries in which we do business could adversely affect our results of operations.

Our sales have been historically denominated in U.S. dollars. An increase in the value of the U.S. dollar relative to the currencies of the countries in which our customers operate could impair the ability of our customers to cost-effectively purchase or integrate our solutions into their product offerings, which may materially affect the demand for our solutions and cause these customers to reduce their orders, which in turn would adversely affect our revenue and business. If we increase operations in other currencies in the future, we may experience foreign exchange gains or losses due to the volatility of other currencies compared to the U.S. dollar. Certain of our employees are located in Canada, India, the Netherlands and Russia. Accordingly, a portion of our payroll as well as certain other operating expenses are paid in currencies other than the U.S. dollar. Our results of operations are denominated in U.S. dollars, and the difference in exchange rates in one period compared to another may directly impact period-to-period comparisons of our results of operations. Furthermore, currency exchange rates have been especially volatile in the recent past, and these currency fluctuations may make it difficult for us to predict our results of operations.

Failure to comply with the laws associated with our activities outside of the United States could subject us to penalties and other adverse consequences.

We face significant risks if we fail to comply with anti-corruption laws and anti-bribery laws, including, without limitation, the U.S. Foreign Corrupt Practices Act of 1977, as amended, or the FCPA, the U.S. Travel Act and the UK Bribery Act 2010, that prohibit improper payments or offers of payment to foreign governments and political parties by us for the purpose of obtaining or retaining business. In many foreign countries, particularly in countries with developing economies, it may be a local custom that businesses operating in such countries engage in business practices that are prohibited by the FCPA or other applicable laws and regulations. We are in the early stages of implementing our FCPA compliance program and cannot assure you that all of our employees and agents, as well as those companies to which we outsource certain of our business operations, will not take actions in violation of our policies and applicable law, for which we

may be ultimately held responsible. Any violation of these laws could result in severe criminal or civil sanctions and, in the case of the FCPA, suspension or debarment from U.S. government contracting, which could have an adverse effect on our reputation, business, financial condition and results of operations.

We are subject to government regulation, including import, export and economic sanctions laws and regulations that may expose us to liability and increase our costs.

Our products and technology are subject to U.S. export controls, including the U.S. Department of Commerce's Export Administration Regulations and economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Controls. These regulations may limit the export of our products and technology, and provision of our services outside of the United States, or may require export authorizations, including by license, a license exception or other appropriate government authorizations, including annual or semi-annual reporting and the filing of an encryption registration. Export control and economic sanctions laws may also include prohibitions on the sale or supply of certain of our products to embargoed or sanctioned countries, regions, governments, persons and entities. In addition, various countries regulate the importation of certain products, through import permitting and licensing requirements, and have enacted laws that could limit our ability to distribute our products. The exportation, reexportation, and importation of our products and technology and the provision of services, including by our partners, must comply with these laws or else we may be adversely affected, through reputational harm, government investigations, penalties, and a denial or curtailment of our ability to export our products and technology or provide services. Complying with export control and sanctions laws may be time consuming and may result in the delay or loss of sales opportunities. Although we take precautions to prevent our products and technology from being provided in violation of such laws, our products and technology may have previously been, and could in the future be, provided inadvertently in violation of such laws, despite the precautions we take. If we are found to be in violation of U.S. sanctions or export control laws, it could result in substantial fines and penalties for us and for the individuals working for us. Changes in export or import laws or corresponding sanctions, may adversely impact our operations, delay the introduction and sale of our products in international markets, or, in some cases, prevent the export or import of our products and technology to certain countries, regions, governments, persons or entities altogether, which could adversely affect our business, financial condition and results of operations.

New or future changes to U.S. and non-U.S. tax laws could materially adversely affect our company.

New or future changes in tax laws, regulations, and treaties, or the interpretation thereof, in addition to tax regulations enacted but not in effect, tax policy initiatives and reforms under consideration in the United States or related to the Organisation for Economic Co-operation and Development's, or OECD, Base Erosion and Profit Shifting, or BEPS, Project, the European Commission's state aid investigations, and other initiatives could have an adverse effect on the taxation of international businesses. Furthermore, countries where we are subject to taxes, including the United States, are independently evaluating their tax policy and we may see significant changes in legislation and regulations concerning taxation. Certain countries have already enacted legislation, including those related to BEPS Project, which could affect international businesses, and other countries have become more aggressive in their approach to audits and enforcement of their applicable tax laws. The U.S. federal government has called for potentially substantial changes to U.S. tax policies and laws. We are unable to predict what future tax reform may be proposed or enacted or what effect such changes would have on our business, but any such changes, to the extent they are brought into tax legislation, regulations, policies, or practices, could increase our effective tax rates in the countries where we have operations and have an adverse effect on our overall tax rate, along with increasing the complexity, burden and cost of tax compliance, all of which could impact our operating results, cash flows and financial condition.

Tax regulatory authorities may disagree with our positions and conclusions regarding certain tax positions resulting in unanticipated costs or non-realization of expected benefits.

A tax authority may disagree with tax positions that we have taken. For example, the Internal Revenue Service or another tax authority could challenge our allocation of income by tax jurisdiction and the amounts paid between our affiliated companies pursuant to our intercompany arrangements and transfer pricing policies, including amounts paid with respect to our intellectual property in connection with our intercompany research and development cost sharing arrangement and legal structure. A tax authority may take the position that material income tax liabilities, interest and penalties are payable by us, in which case, we expect that we might contest such assessment. Contesting such an assessment may be lengthy and costly and if we were unsuccessful in disputing the assessment, the implications could be materially adverse to us and affect our anticipated effective tax rate or operating income, where applicable.

Catastrophic events may disrupt our business.

Our corporate headquarters and our foundry vendors are located in areas that are in active earthquake zones. In the event of a major earthquake, hurricane or other catastrophic event such as fire, power loss, telecommunications failure, cyber-attack, war, terrorist attack or disease outbreak, we may be unable to continue our operations and may endure system interruptions, reputational harm, delays in our product development, breaches of data security, or loss of critical data, any of which could have an adverse effect on our future results of operations.

A breach of our security systems may damage our reputation and adversely affect our business.

Our security systems are designed to protect our customers', suppliers' and employees' confidential information, as well as maintain the physical security of our facilities. We also rely on a number of third-party cloud-based service providers of corporate infrastructure services relating to, among other things, human resources, electronic communication services and some finance functions, and we are, of necessity, dependent on the security systems of these providers. Any security breaches or other unauthorized access by third parties to the systems of our cloud-based service providers or the existence of computer viruses in their data or software could expose us to a risk of information loss and misappropriation of confidential information. Accidental or willful security breaches or other unauthorized access by third parties to our information systems or facilities, or the existence of computer viruses in our data or software, could expose us to a risk of information loss and misappropriation of proprietary and confidential information. Any theft or misuse of this information could result in, among other things, unfavorable publicity, damage to our reputation, difficulty in marketing our products, allegations by our customers that we have not performed our contractual obligations, litigation by affected parties and possible financial obligations for liabilities and damages related to the theft or misuse of this information, any of which could have an adverse effect on our business, financial condition, our reputation and our relationships with our customers and suppliers. Since the techniques used to obtain unauthorized access or to sabotage systems change frequently and are often not recognized until after they are launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures.

Risks Related to Our Intellectual Property and Potential Product Liability

Our failure to adequately protect our intellectual property rights could impair our ability to compete effectively or defend ourselves from litigation, which could harm our business, financial condition and results of operations.

Our success depends, in part, on our ability to protect our intellectual property. We rely primarily on patent, copyright, trademark and trade secret laws, as well as confidentiality and non-disclosure agreements and other contractual protections, to protect our technologies and proprietary know-how, all of which offer only limited protection. The steps we have taken to protect our intellectual property rights may not be adequate to prevent misappropriation of our proprietary information or infringement of our intellectual property rights, and our ability to prevent such misappropriation or infringement is uncertain, particularly in countries outside of the United States. As of June 30, 2017, we had 85 issued patents, expiring generally between 2024 and 2032, three allowed patents in the United States, 29 pending and provisional patent applications in the United States and 12 issued international patents. Even if the pending patent applications are granted, the rights granted to us may not be meaningful or provide us with any commercial advantage. For example, these patents could be opposed, contested, circumvented, designed around by our competitors or be declared invalid or unenforceable in judicial or administrative proceedings. Further, we are a participant in the IEEE standard process and, as a result, have signed letters of assurance with the IEEE stipulating that we will agree to license to other members of the IEEE, under reasonable and non-discriminatory terms, patents containing essential claims that are necessary for the implementation of the IEEE standards for 10GBASE-T as well as 2.5GBASE-T and 5GBASE-T. Essential claims include any claim the practice of which was necessary to implement a portion of the IEEE standard when, at the time of IEEE's approval, there was no commercially and technically feasible non-infringing alternative implementation method. To date, we do not license any of our patents to other members of the IEEE; however, we may decide, or otherwise be required pursuant to such letters of assurance, to enter into such licensing agreements with respect to a significant number of our patents relating to both our 10GBASE-T PHYs and our AQrate technology in the future. The failure of our patents to adequately protect our technology might make it easier for our competitors to offer similar products or technologies. Our foreign patent protection is generally not as comprehensive as our U.S. patent protection and may not protect our intellectual property in some countries where our products are sold or may be sold in the future. Many U.S.-based companies have encountered substantial intellectual property infringement in foreign countries, including countries where we sell products. Even if foreign patents are granted, effective enforcement in foreign countries may not be available. If such an impermissible use of our intellectual property or trade secrets were to occur, our ability to sell our solutions at competitive prices may be adversely affected and our business, financial condition, results of operations and cash flows could be adversely affected.

The legal standards relating to the validity, enforceability and scope of protection of intellectual property rights are uncertain and evolving. We cannot assure you that others will not develop or patent similar or superior technologies or solutions, or that our patents, trademarks and other intellectual property will not be challenged, invalidated or circumvented by others.

Unauthorized copying or other misappropriation of our proprietary technologies could enable third parties to benefit from our technologies without paying us for doing so, which could harm our business. Monitoring unauthorized use of our intellectual property is difficult and costly. It is possible that unauthorized use of our intellectual property may have occurred or may occur without our knowledge. We cannot assure you that the steps we have taken will prevent unauthorized use of our intellectual property. Our failure to effectively protect our intellectual property could reduce the value of our technology in licensing arrangements or in cross-licensing negotiations.

We may in the future need to initiate infringement claims or litigation in order to try to protect our intellectual property rights. Litigation, whether we are a plaintiff or a defendant, can be expensive, time-consuming and may divert the efforts of our technical staff and management, which could harm our business, whether or not such litigation results in a determination favorable to us. Litigation also puts our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing. Additionally, any enforcement of our patents or other intellectual property may provoke third parties to assert counterclaims against us. If we are unable to protect our proprietary rights or if third parties independently develop or gain access to our or similar technologies, our business, revenue, reputation and competitive position could be harmed.

We have granted the right to manufacture our custom products to our customers upon the occurrence of certain events. If our customers exercise such rights, our business and financial results would suffer.

We have granted certain of our customers, including Intel and Cisco, a worldwide, nonexclusive, nontransferable, perpetual, irrevocable right and license to manufacture or have manufactured our products that have been customized for them. These rights are exercisable only upon the occurrence of certain events, including for example, if we fail to consistently supply products in quantities ordered, we discontinue manufacture of such products or we experience an insolvency event. If these rights are triggered, and our customers choose to exercise these rights, our business and financial results would suffer.

Third parties' assertions of infringement of their intellectual property rights could result in our having to incur significant costs and cause our operating results to suffer.

The semiconductor industry is characterized by vigorous protection and pursuit of intellectual property rights and positions, which has resulted in protracted and expensive litigation for many companies. We expect that in the future, particularly as a public company with an increased profile and visibility, we may receive communications from others alleging our infringement of patents, trade secrets or other intellectual property rights. Lawsuits resulting from such allegations could subject us to significant liability for damages and invalidate our proprietary rights. Any potential intellectual property litigation also could force us to do one or more of the following:

- stop selling solutions or using technology that contain the allegedly infringing intellectual property;
- lose the opportunity to license our technology to others or to collect royalty payments based upon successful protection and assertion of our intellectual property against others;
- incur significant legal expenses;
- pay substantial damages to the party whose intellectual property rights we may be found to be infringing;
- redesign those products that contain the allegedly infringing intellectual property; or
- attempt to obtain a license to the relevant intellectual property from third parties, which may not be available on reasonable terms or at all.

Any significant impairment of our intellectual property rights from any litigation we face could harm our business and our ability to compete.

We may face claims of intellectual property infringement, which could be time-consuming and costly to defend or settle and which could result in the loss of significant rights and harm our relationships with our customers and distributors.

The semiconductor industry, the industry in which we operate, is characterized by companies that hold patents and other intellectual property rights and vigorously pursue, protect and enforce intellectual property rights. From time to time, third parties may assert against us and our customers and distributors their patent and other intellectual property rights to technologies that are important to our business.

Claims that our products, processes or technology infringe third-party intellectual property rights, regardless of their merit or resolution, could be costly to defend or settle and could divert the efforts and attention of our management and technical personnel.

Infringement claims also could harm our relationships with our customers or distributors and might deter future customers from doing business with us. We do not know whether we will prevail in these proceedings given the complex technical issues and inherent uncertainties in intellectual property litigation. If any future proceedings result in an adverse outcome, we could be required to:

- cease the manufacture, use or sale of the infringing products, processes or technology;

- pay substantial damages for infringement by us or our customers;
- expend significant resources to develop non-infringing products, processes or technology, which may not be successful;
- license technology from the third-party claiming infringement, which license may not be available on commercially reasonable terms, or at all;
- cross-license our technology to a competitor to resolve an infringement claim, which could weaken our ability to compete with that competitor; or
- pay substantial damages to our customers or end users to discontinue their use of or to replace infringing technology sold to them with non-infringing technology, if available.

Any of the foregoing results could adversely affect our business, financial condition and results of operations.

Any potential dispute involving our patents or other intellectual property could affect our customers, which could trigger our indemnification obligations to them and result in substantial expense to us.

In any potential dispute involving our patents or other intellectual property, our customers could also become the target of litigation. Our agreements with customers and other third parties generally include indemnification or other provisions under which we agree to indemnify or otherwise be liable to them for losses suffered or incurred as a result of claims of intellectual property infringement, damages caused by us to property or persons, or other liabilities relating to or arising from our solutions included in their products. Large indemnity payments or damage claims from contractual breach could harm our business, operating results, and financial condition. From time to time, customers require us to indemnify or otherwise be liable to them for breach of confidentiality or failure to implement adequate security measures with respect to their intellectual property and trade secrets. Although we normally contractually limit our liability with respect to such obligations, we may still incur substantial liability related to them. Any litigation against our customers could trigger technical support and indemnification obligations under some of our agreements, which could result in substantial expense to us.

In addition, other customers or end customers with whom we do not have formal agreements requiring us to indemnify them may ask us to indemnify them if a claim is made as a condition to awarding future design wins to us. Because most of our customers are larger than we are and have greater resources than we do, they may be more likely to be the target of an infringement claim by third parties than we would be, which could increase our chances of becoming involved in a future lawsuit. If any such claims were to succeed, we might be forced to pay damages on behalf of our customers that could increase our expenses, disrupt our ability to sell our solutions and reduce our revenue. Any dispute with a customer with respect to such obligations could have adverse effects on our relationship with that customer and other current and prospective customers, reduce demand for our solutions, and harm our business and results of operations. In addition to the time and expense required for us to supply support or indemnification to our customers, any such litigation could severely disrupt or shut down the business of our customers, which in turn could hurt our relations with our customers and cause the sale of our products to decrease.

Risks Related to Our Common Stock and this Offering

An active trading market for our common stock may not develop or be sustained and you may not be able to sell your shares at or above the initial public offering price, or at all.

There has been no public market for our common stock prior to this offering. The initial public offering price for our common stock will be determined through negotiations between the underwriters and us and may vary from the market price of our common stock following this offering. If you purchase shares of our common stock in this offering, you may not be able to resell those shares at or above the initial public offering price, or at all. An active market in our common stock may not develop upon the closing of this offering or, if it does develop, it may not be sustainable or liquid enough for you to sell your shares. We have applied to list our common stock on the New York Stock Exchange, or NYSE, but we cannot assure you that our stock will be listed and, even if it is, that an active trading market will develop.

Our stock price may be volatile and may decline, resulting in a loss of some or all of your investment.

The trading price and volume of our common stock is likely to be volatile and could fluctuate significantly in response to numerous factors, many of which are beyond our control, including:

- actual or anticipated fluctuations in our results of operations due to, among other things, changes in customer demand, product life cycles, pricing, ordering patterns and unforeseen operating costs;
- the financial projections we may provide to the public, any changes in these projections or our failure to meet these projections;

- failure of securities analysts to initiate or maintain coverage of our company, changes in financial estimates or ratings by any securities analysts who follow our company, or our failure to meet these estimates or the expectations of investors;
- announcements by us or our competitors of significant technical innovations, acquisitions, strategic partnerships, joint ventures or capital commitments;
- announcements by our significant customers of changes to their product offerings, business plans or strategies;
- changes in operating performance and stock market valuations of other technology companies generally, or those in the semiconductor industry;
- timing and seasonality of the end-market demand;
- cyclical fluctuations in the semiconductor market;
- price and volume fluctuations in the overall stock market from time to time, including as a result of trends in the economy as a whole;
- actual or anticipated developments in our business or our competitors' businesses or the competitive landscape generally;
- new laws or regulations or new interpretations of existing laws, or regulations applicable to our business;
- any major change in our management;
- lawsuits threatened or filed against us; and
- other events or factors, including those resulting from war, incidents of terrorism or responses to these events.

In addition, the market for technology stocks and the stock markets in general have experienced extreme price and volume fluctuations. Stock prices of many technology companies have fluctuated in a manner unrelated or disproportionate to the operating performance of those companies. In the past, stockholders have instituted securities class action litigation following periods of market volatility. If we were to become involved in securities litigation, it could subject us to substantial costs, divert resources and the attention of management from our business and adversely affect our business, results of operations, financial condition and cash flows.

Substantial future sales of shares of our common stock could cause the market price of our common stock to decline.

The market price of our common stock could decline as a result of substantial sales of our common stock, particularly sales by our directors, executive officers and significant stockholders, a large number of shares of our common stock becoming available for sale or the perception in the market that holders of a large number of shares intend to sell their shares. Upon the closing of this offering, we will have approximately shares of common stock outstanding, assuming no exercise of the underwriters' over-allotment option. All of the shares of common stock sold in this offering will be freely transferable without restriction or additional registration under the Securities Act or 1933, as amended, or the Securities Act. Subject to the restrictions under Rule 144 under the Securities Act, shares of common stock outstanding after this offering will be eligible for resale 180 days after the date of this prospectus upon the expiration of lock-up agreements or other contractual restrictions. In addition, at any time with or without public notice, Morgan Stanley & Co. LLC, as representative of the underwriters, may in its discretion release shares subject to the lock-up agreements prior to the expiration of this 180-day lock-up period. See the section titled "Shares Eligible for Future Sale" for additional information. As these resale restrictions end, the market price of our common stock could decline if the holders of those shares sell them or are perceived by the market as intending to sell them.

After this offering, subject to the lock-up agreements described above, the holders of an aggregate of 21,880,902 shares of our common stock as of June 30, 2017 will have rights, subject to certain conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or our stockholders. We also intend to register shares of common stock that we may issue under our employee equity incentive plans. Once we register these shares, they will be able to be sold freely in the public market upon issuance, subject to existing market stand-off or lock-up agreements.

Our directors, officers and principal stockholders beneficially own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

Upon the closing of this offering, our directors, officers and beneficial owners of 5% or more of our outstanding stock and their respective affiliates will beneficially own an aggregate of approximately % of our outstanding stock. Therefore, after this offering these stockholders will continue to have the ability to influence us through this ownership position. These stockholders may be able to determine all matters requiring stockholder approval. For example, these stockholders will be able to control elections of directors, amendments of our organizational documents, or the approval of any merger, sale of assets or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may feel are in your best interest as one of our stockholders.

If securities analysts or industry analysts downgrade our common stock, publish negative research or reports or fail to publish reports about our business, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us, our business and our market. If one or more analysts adversely changes their recommendation regarding our stock or changes their recommendation about our competitors' stock, our stock price would likely decline. If one or more analysts cease coverage of us or fail to regularly publish reports on us, we could lose visibility in the financial markets which in turn could cause our stock price or trading volume to decline.

We may invest or spend the proceeds of this offering in ways with which you may not agree or in ways which may not yield a return.

Our management will have considerable discretion in the application of the net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. The net proceeds may be used for corporate purposes that do not increase the value of our business, which could cause our stock price to decline.

We do not intend to pay dividends on our common stock so any returns will be limited to changes in the value of our common stock.

We have never declared or paid any cash dividends on our common stock. We currently anticipate that we will retain future earnings for the development, operation, and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. In addition, our ability to pay cash dividends on our common stock is prohibited by the terms of our current debt financing arrangements. Any return to stockholders will therefore be limited to the increase, if any, in our stock price, which may never occur.

We might not be able to utilize a significant portion of our net operating loss carryforwards and research and development tax credit carryforwards.

As of December 31, 2016, we had U.S. federal and state net operating loss, or NOL, carryforwards of approximately $171.3 million and $102.3 million, respectively, and U.S. federal and state research and development tax credit carryforwards of approximately $6.1 million and $6.8 million, respectively. The U.S. federal NOL carryforwards begin to expire in 2025 and the state NOL carryforwards begin to expire in 2017. The U.S. federal research and development tax credit carryforwards begin to expire in 2026 and the state research and development tax credit carryforwards carry forward indefinitely. These net operating loss and U.S. federal tax credit carryforwards could expire unused and be unavailable to offset future income tax liabilities. In addition, under Section 382 of the Internal Revenue Code of 1986, as amended, and corresponding provisions of California state law, if a corporation undergoes an "ownership change," which is generally defined as a greater than 50% change, by value, in its equity ownership over a three-year period, the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes to offset its post-change income may be limited. We completed a Section 382 analysis and determined an ownership change occurred in July 2005 and November 2009, which resulted in reductions to the U.S. federal and California net operating losses of $35.5 million and $34.3 million, respectively, and U.S. federal research and development credits by $1.8 million. In addition, we may experience ownership changes in the future as a result of subsequent shifts in our stock ownership, including this offering, some of which may be outside of our control. If we determine that an ownership change has occurred and our ability to use our historical net operating loss and tax credit carryforwards is materially limited, it would harm our future operating results by effectively increasing our future tax obligations.

As a new investor, you will experience immediate and substantial dilution in the book value of the shares that you purchase in this offering.

The initial public offering price is substantially higher than the pro forma net tangible book value per share of our common stock immediately following this offering based on the total value of our tangible assets less our total liabilities. Therefore, if you purchase shares of our common stock in this offering, at the assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus), you will experience immediate dilution of $ per share, the difference between the price per share you pay for our common stock and our pro forma net tangible book value per share as of , after giving effect to the issuance of shares of our common stock in this offering. See "Dilution." To the extent outstanding options or warrants to purchase our common stock are exercised, investors purchasing our common stock in this offering will experience further dilution.

Our actual operating results may not meet our guidance and investor expectations, which would likely cause our stock price to decline.

From time to time, we may release guidance in our earnings releases, earnings conference calls or otherwise, regarding our future performance that represent our management's estimates as of the date of release. If given, this guidance, which will include forward-looking statements, will be based on projections prepared by our management. Projections are based upon a number of assumptions and estimates that, while presented with numerical specificity, are inherently subject to significant business, economic and competitive uncertainties and contingencies, many of which are beyond our control. The principal reason that we expect to release guidance is to provide a basis for our management to discuss our business outlook with analysts and investors. With or without our guidance, analysts and other investors may publish expectations regarding our business, financial performance and results of operations. We do not accept any responsibility for any projections or reports published by any such third parties. Guidance is necessarily speculative in nature, and it can be expected that some or all of the assumptions of the guidance furnished by us will not materialize or will vary significantly from actual results. If our actual performance does not meet or exceed our guidance or investor expectations, the trading price of our common stock is likely to decline.

We have not operated as a public company and may not be able to effectively or efficiently manage or transition to a public company.

We have never operated as a public company and will incur significant legal, accounting and other expenses that we did not incur as a private company. Our management team and other personnel will need to devote a substantial amount of time to, and we may not effectively or efficiently manage, our transition into a public company.

We intend to hire additional accounting and finance personnel with system implementation experience and expertise regarding compliance with the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act. We may be unable to locate and hire qualified professionals with requisite technical and public company experience when and as needed. In addition, new employees will require time and training to learn our business and operating processes and procedures. If we are unable to recruit and retain additional finance personnel or if our finance and accounting team is unable for any reason to respond adequately to the increased demands that will result from being a public company, the quality and timeliness of our financial reporting may suffer, which could result in the identification of material weaknesses in our internal controls. Any consequences resulting from inaccuracies or delays in our reported financial statements could cause our stock price to decline and could harm our business, operating results and financial condition.

If we fail to strengthen our financial reporting systems, infrastructure and internal control over financial reporting to meet the demands that will be placed upon us as a public company, including the requirements of the Sarbanes-Oxley Act, we may be unable to report our financial results timely and accurately and prevent fraud. We expect to incur significant expense and devote substantial management effort toward ensuring compliance with Section 404 of the Sarbanes-Oxley Act, or Section 404.

We are in the process of implementing an enterprise resource planning, or ERP, system. This will require significant investment of capital and human resources, the re-engineering of many processes of our business and the attention of many employees who would otherwise be focused on other aspects of our business. Any disruptions, delays or deficiencies in the design and implementation of the improvements of a new ERP system could result in potentially much higher costs than we had anticipated and could adversely affect our ability to develop and launch solutions, fulfill contractual obligations, file reports with the SEC in a timely manner, otherwise operate our business or otherwise impact our controls environment. Any of these consequences could have an adverse effect on our results of operations and financial condition.

As a result of becoming a public company, we will become subject to additional regulatory compliance requirements, including Section 404, and if we fail to maintain an effective system of internal controls, we may not be able to accurately report our financial results or prevent fraud.

Rules and regulations such as the Sarbanes-Oxley Act have increased our legal and finance compliance costs and made some activities more time consuming and costly. For example, Section 404 requires that our management report on, and our independent auditors attest to, the effectiveness of our internal control structure and procedures for financial reporting. However, our auditors will not be required to formally attest to the effectiveness of our internal control over financial reporting pursuant to Section 404 until we are no longer an "emerging growth company," as defined in the JOBS Act. Effective internal controls are necessary for us to provide reliable financial reports and effectively prevent fraud. Section 404 compliance may divert internal resources and will take a significant amount of time and effort to complete. We may not be able to successfully complete the procedures and certification and attestation requirements of Section 404 by the time we will be required to do so. Implementing these changes may take a significant amount of time and may require specific compliance training of our personnel. In the future, we may discover areas of our internal controls that need improvement. If our auditors or we discover a material weakness or significant deficiency, the disclosure of that fact, even if quickly remedied, could reduce the market's confidence in our consolidated financial statements and harm our stock price. Any inability to provide reliable financial reports or prevent fraud would harm our business. We may not be able to effectively and timely implement necessary control changes and employee training to ensure continued compliance with the Sarbanes-Oxley Act and other regulatory and reporting requirements. If we fail to successfully complete the procedures and certification and attestation requirements of Section 404, or if in the future our Chief Executive Officer, Chief Financial Officer or independent registered public accounting firm determines that our internal controls over financial reporting are not effective as defined under Section 404, we could be subject to investigations or sanctions by NYSE, the SEC or other regulatory

authorities. Furthermore, investor perceptions of our company may suffer, and this could cause a decline in the market price of our shares of common stock. We cannot assure you that we will be able to fully comply with the requirements of the Sarbanes-Oxley Act or that management or, when applicable, our auditors will conclude that our internal controls are effective in future periods. Irrespective of compliance with Section 404, any failure of our internal controls could have a material adverse effect on our stated results of operations and harm our reputation.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of our company more difficult, limit attempts by our stockholders to replace or remove our current management and limit the market price of our common stock.

Provisions in our certificate of incorporation and bylaws, as amended and restated in connection with this offering, may have the effect of delaying or preventing a change of control or changes in our management. Our amended and restated certificate of incorporation and bylaws include provisions that:

- authorize our board of directors to issue, without further action by the stockholders, shares of undesignated preferred stock with terms, rights, and preferences determined by our board of directors that may be senior to our common stock;
- require that any action to be taken by our stockholders be effected at a duly called annual or special meeting and not by written consent;
- specify that special meetings of our stockholders can be called only by our board of directors, the Chairman of our board of directors, or our Chief Executive Officer;
- establish an advance notice procedure for stockholder proposals to be brought before an annual meeting, including proposed nominations of persons for election to our board of directors;
- establish that our board of directors is divided into three classes, with each class serving three-year staggered terms;
- prohibit cumulative voting in the election of directors;
- provide that our directors may be removed only for cause;
- provide that vacancies on our board of directors may be filled by a majority of directors then in office, even if less than a quorum; and
- require the approval of our board of directors or the holders of at least 66 2/3% of our outstanding shares of capital stock to amend our bylaws and certain provisions of our certificate of incorporation.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with any interested stockholder for a period of three years following the date on which the stockholder became an interested stockholder. See the section titled "Description of Capital Stock—Anti-Takeover Effects of Provisions of Our Certificate of Incorporation, Our Bylaws and Delaware Law" for additional information. Any delay or prevention of a change of control transaction or changes in our management could cause our stock price to decline.

Our charter documents designate the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain what they believe to be a favorable judicial forum for disputes with us or our directors, officers, or other employees.

Our certificate of incorporation and bylaws, as amended and restated in connection with this offering, provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (3) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our certificate of incorporation or our bylaws or (4) any action asserting a claim against us governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and consented to the provisions of our certificate of incorporation described above. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers, and other employees. Alternatively, if

a court were to find these provisions of our certificate of incorporation inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business, financial condition or results of operations and result in a diversion of the time and resources of our management and board of directors.

Special Note Regarding Forward-Looking Statements

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS This prospectus, including the sections titled "Prospectus Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business," contains forward-looking statements. We may, in some cases, use words such as "anticipate," "believe," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "will," "would" or the negative of those terms, and similar expressions that convey uncertainty of future events or outcomes to identify these forward-looking statements. Any statements contained herein that are not statements of historical facts may be deemed to be forward-looking statements. Forward-looking statements in this prospectus include, but are not limited to, statements about:

- our ability to retain and expand our customer relationships and to achieve design wins;
- the success, cost and timing of existing and future product designs;
- our ability to address market and customer demands and to timely develop new or enhanced solutions to meet those demands;
- the size and growth potential of the markets for our solutions, including as to the number of units to be sold and the price therefor that have been formulated based on current information and are subject to change as a result of the evolving technological landscape, competitive market dynamics and unforeseen developments;
- our ability to serve our target markets;
- anticipated trends, challenges and growth in our business and the markets in which we operate, including pricing expectations and effects of seasonality in our business;
- our expectations regarding our revenue, gross margin and expenses;
- our expectations regarding competition in our existing and new markets;
- regulatory developments in the United States and foreign countries;
- the performance of our third-party suppliers and manufacturers;
- our and our customers' ability to respond successfully to technological or industry developments;
- our ability to attract and retain key management personnel;
- the average selling prices of semiconductor solutions;
- the accuracy of our estimates regarding capital requirements and needs for additional financing;
- the industry standards to which our solutions conform;
- our expectations regarding the period during which we qualify as an emerging growth company under the JOBS Act;
- our expectations regarding our ability to obtain and maintain intellectual property protection for our technology; and
- our use of the proceeds from this offering.

These forward-looking statements reflect our management's beliefs and views with respect to future events and are based on estimates and assumptions as of the date of this prospectus and, while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. We discuss many of these risks in greater detail under the section titled "Risk Factors." Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

We cannot assure you that the forward-looking statements in this prospectus will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame or at all. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. The Private Securities Litigation Reform Act of 1995 and Section 27A of the Securities Act of 1933, as amended, or the Securities Act, do not protect any forward-looking statements that we make in connection with this offering.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in this prospectus by these cautionary statements.

Industry and Market Data

INDUSTRY AND MARKET DATA Unless otherwise indicated, information contained in this prospectus concerning our industry and the markets in which we operate, including our general expectations and market position, market opportunity, and market size, is based on information and data from various sources, on assumptions that we have made that are based on that information and data and other similar sources, and on our knowledge of the markets for our products and services. This information involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such information. While we believe the market position, market opportunity and market size information included in this prospectus is generally reliable, such information is inherently imprecise. In addition, projections, assumptions and estimates of our future performance and the future performance of the industry in which we operate is necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described in the section titled "Risk Factors" and elsewhere in this prospectus. These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by us.

Certain information in this prospectus is contained in:

- IDC, PC Microprocessor—1Q15 and 3Q15 Vendor Shares;
- IDC, WW Internet of Things Forecast 2015-2020—May 2015;
- Dell'oro, WLAN Forecast—January 2016;
- Cisco, Cisco Visual Networking Index: Forecast and Methodology, 2015-2020 White Paper—June 2016;
- Crehan, Long-range Forecast—Data Center Switch Total—July 2017;
- Crehan, Long-range Forecast—Server-class Adapter & LOM_Controller—July 2017;
- 650 Group, Long-range Forecast—Ethernet Switching & WLAN Access Points—June 2017;
- IDC Worldwide Networking Technologies Embedded in PCs Forecast, 2017-2021—March 2017; and
- Raymond James, From ADAS to Autonomous: A 25-Year Forecast and Full Value Chain Analysis, The 2017 Version—March 2017.

Glossary

GLOSSARY

The following capitalized phrases and their acronyms are used throughout this prospectus and have the meanings set forth below:

802.3bz: the standard introduced by IEEE for Ethernet over twisted pair copper wire at speeds of 2.5GbE and 5GbE.

ADAS: Advanced Driver Assistance Systems are systems to help the driver in the driving process.

ADC: Analog-to-digital converter.

AFE: Analog Front-End, the portion of an integrated circuit that receives and processes external analog signals.

AP: Access Point, a networking hardware device that allows wireless devices to connect to a network using Wi-Fi.

AQrate: Aquantia's proprietary technology that provides 2.5GbE and 5GbE transmission speeds.

ASIC: an application specific integrated circuit.

ASSP: an application specific standard product.

Attenuation: reduction in the strength of a signal.

AVoE: audio-video over Ethernet equipment.

BASE-T: an acronym used by IEEE to identify an Ethernet protocol characterized by a broadband modulation of a signal transmitted over a twisted-pair copper cabling.

Cat5e and Cat6: twisted-pair copper cabling; typically used in legacy enterprise infrastructure.

CMOS: Complementary Metal-Oxide Semiconductor, which is a transistor technology used for the fabrication of integrated circuits.

Crosstalk: a phenomenon by which a signal creates an undesired effect on another signal, a type of noise that is often experienced with analog signals transmitted over twisted-pair cables.

DAC: Digital-to-analog converter.

Data Center: a facility used to house computing and networking systems and associated components, such as storage systems.

Design Tool: a software application that is used to design, simulate, verify and implement the functionality of an integrated circuit. The final output of the design tool is used to create an IC mask set.

Die: a small block of semiconducting material on which a given functional circuit is fabricated.

DOCSIS: Data Over Cable Service Interface Specification, which is an international telecommunications standard.

Echo: a type of noise that corresponds to the reflection of the transmitted signal unintentionally coupled into the received signal.

Ethernet: the most widely installed local area network (LAN) technology, which is a link layer protocol, describing how networked devices can format data for transmission to other network devices on the same network segment, and how to put that data out on the network connection.

Enterprise: hardware and software designed to meet the demands of a large organization, rather than individual users.

Footprint: the amount of space that part or all of an integrated circuit occupies.

Foundry: an enterprise that manufactures ICs and related components.

GbE: a term which describes various technologies that transmit Ethernet frames. GbE or 1GbE refers to such transmission at a rate of one Gbps, 5GbE refers to such transmission at a rate of five Gbps and 10GbE refers to such transmission at a rate of 10Gbps.

Gbps: a measure of bandwidth on digital transmission medium representing billions of bits per second.

HDMI: a proprietary audio/video interface called High-Definition Multimedia Interface for transmitting uncompressed video data and compressed or uncompressed digital audio data from one device to another.

IC: integrated circuit, which is a semiconductor device on which an electronic circuit is formed. This is also referred to as a "chip" or a microchip.

IEEE: Institute of Electrical and Electronic Engineers, a technical professional society, dedicated to the advancement of technology.

IP: Internet protocol, which is the method or protocol by which data is sent from one computer to another on the Internet.

LAN: Local Area Network.

Leaf switch: device that aggregates traffic from server nodes and connects to the core of the network, consisting of spine switches. Its architecture is known as "leaf-spine".

MCSP: Our proprietary Multi-Core Signal Processing technology, which incorporates multiple customized units to more efficiently process digital signals.

MMSP: Our proprietary Mixed-Mode Signal Processing technology, which partitions signal processing across analog and digital domains.

MPEG: an international standard set by the Moving Picture Experts Group for encoding and compressing video images.

NIC: Network interface card ***nm***: nanometer, which is a unit of length in the metric system, equal to one billionth of a meter.

OEM: an original equipment manufacturer.

OSI: Open Systems Interconnection model ***PHY***: an abbreviation for the physical layer circuitry. A PHY connects a link layer device (often called MAC as an abbreviation for media access control) to a physical medium such as an optical fiber or copper cable.

PLD: programmable logic device, which is an electronic component used to build reconfigurable digital circuits.

Process Nodes: the transistor width used to define a semiconductor manufacturing process. Smaller widths allow more transistors to be manufactured in the same silicon area. Process node is typically measured in nanometers, or nm (*e.g.*, 28nm, 40nm, 90nm).

Serializer/Deserializer or ***SerDes***: a pair of functional blocks commonly used in high speed communications, which convert data between serial and parallel interfaces.

SFP+: a small form factor module designed to operate at 10Gbps that is pluggable into a system.

WAN: Wide-Area Network.

WLAN: Wireless Local Area Network.

Use of Proceeds

USE OF PROCEEDS We estimate that we will receive net proceeds of approximately $ million (or approximately $ million if the underwriters' over-allotment option is exercised in full) from the sale of the shares of common stock offered by us in this offering, based on an assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus), and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) the net proceeds to us from this offering by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

Similarly, each 1.0 million share increase (decrease) in the number of shares offered by us, as set forth on the cover of this prospectus, would increase (decrease) the net proceeds to us by $ million, assuming no change in the assumed initial public offering price per share, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

The principal purposes of this offering are to increase our capitalization and financial flexibility, establish a public market for our common stock and facilitate future access to the public equity markets by us, our employees and our stockholders, obtain additional capital to support our operations, and increase our visibility in the marketplace.

We intend to use approximately $ million of the net proceeds we receive from this offering to prepay in full the outstanding indebtedness under our term loan with Pinnacle Ventures, L.L.C. This loan bears interest at a rate equal to the greater of the prime rate plus 550 basis points, or 8.75% per annum, and matures July 1, 2018. See the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Debt Obligations." However, our intentions to prepay this loan may change due to market or other factors.

We currently intend to use the remaining net proceeds to us from this offering primarily for general corporate purposes, including working capital, sales and marketing activities, product development, general and administrative matters, and capital expenditures, although we do not currently have any specific or preliminary plans with respect to the use of proceeds for such purposes. We also may use a portion of the remaining net proceeds to acquire complementary businesses, products, services or technologies, however, we do not have agreements or commitments for any specific acquisitions at this time.

Our expected use of the net proceeds from this offering represents our current intentions based upon our present plans and business condition. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the closing of this offering, or the amounts that we will actually spend on the uses set forth above. We will have broad discretion over the use of our net proceeds of this offering.

Pending the uses described above, we intend to invest the net proceeds from this offering in short-term, interest-bearing securities such as money market accounts, certificates of deposit, commercial paper and guaranteed obligations of the U.S. government. We may also make illiquid minority investments in private companies for strategic reasons, however, we do not have any agreements, commitments or plans for any specific minority investments at this time.

The amounts and timing of our actual use of the net proceeds will vary depending on numerous factors, including our ability to gain access to additional financing and the relative success and cost of our research and development programs. As a result, our management will have broad discretion in the application of the net proceeds, and investors will be relying on our judgment regarding the application of the net proceeds of this offering. In addition, we might decide to postpone or not pursue certain development activities if the net proceeds from this offering and any other sources of cash are less than expected.

Dividend Policy

DIVIDEND POLICY We have never declared or paid cash dividends on our capital stock. We do not anticipate declaring or paying, in the foreseeable future, any cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business. Any future determination related to our dividend policy will be made at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects and other factors our board of directors may deem relevant. In addition, the terms of our existing credit facility with Hercules Technology Growth Capital, Inc. restricts our ability to pay dividends or make distributions.

Capitalization

CAPITALIZATION The following table sets forth our cash and cash equivalents and our capitalization as of June 30, 2017:

- on an actual basis;
- on a pro forma basis, giving effect to (1) the automatic conversion of all of our outstanding convertible preferred stock into 20,816,754 shares of our common stock immediately prior to the closing of this offering, (2) the automatic conversion of our convertible preferred stock warrants into warrants to purchase an aggregate of 584,148 shares of our common stock immediately prior to the closing of this offering and (3) the filing and effectiveness of our amended and restated certificate of incorporation upon the closing of this offering; and
- on a pro forma as adjusted basis, giving effect to the pro forma adjustments discussed above and giving further effect to (1) the sale of shares of our common stock by us in this offering at an assumed initial public offering price of $ per share (the midpoint of the range set forth on the cover of this prospectus), after deducting underwriting discounts and commissions and estimated offering expenses payable by us and (2) the application of approximately $ million of the net proceeds from this offering to prepay in full the outstanding indebtedness under our loan with Pinnacle Ventures L.L.C.

The pro forma information below is illustrative only and our capitalization following the closing of this offering will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read this table together with “Selected Consolidated Financial Data” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements and the related notes appearing elsewhere in this prospectus.

	As of June 30, 2017		
	Actual	Pro Forma	Pro Forma As Adjusted[1]
	(in thousands, except share and per share data)		
Cash and cash equivalents	$17,369	$17,369	$
Total debt	$18,351	$18,351	$
Preferred Stock Warrant Liability	3,847	—	

Convertible preferred stock, $0.00001 par value: 213,351,797 shares authorized and 208,004,878 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	210,269	—	
Stockholders' equity (deficit):			
Preferred stock, $0.00001 par value: shares authorized, no shares issued or outstanding, actual; and 10,000,000 shares authorized and no shares issued or outstanding, pro forma and pro forma as adjusted	—	—	
Common stock, $0.00001 par value: 316,000,000 shares authorized and 4,686,326 shares issued and outstanding, actual; 400,000,000 shares authorized and 25,503,080 shares issued and outstanding, pro forma; and shares authorized, shares issued and shares outstanding, pro forma as adjusted	—	—	
Additional paid-in capital	13,754	227,870	
Accumulated other comprehensive loss	(2)	(2)	
Accumulated deficit	(195,649)	(195,649)	
Total stockholders' equity (deficit)	(181,897)	32,219	
Total capitalization	$50,570	$50,570	$

(1) Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus) would increase (decrease) each of cash and cash equivalents, additional paid-in capital, total stockholders (deficit) equity, and total capitalization by approximately $ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each 1.0 million increase (decrease) in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) each of our cash and cash equivalents, additional paid-in capital, total stockholders' (deficit) equity, and total capitalization by approximately $ million, assuming no change in the assumed initial public offering price per share, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. The pro forma as adjusted information discussed above is illustrative only and will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing.

The number of shares of our common stock to be outstanding after this offering is based on 25,503,080 shares of common stock outstanding as of June 30, 2017, and excludes:

- 3,882,957 shares of common stock issuable upon the exercise of outstanding stock options as of June 30, 2017, at a weighted-average exercise price of $4.44 per share;
- shares of our common stock reserved for future issuance under the 2017 Plan, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2017 Plan;
- shares reserved for future issuance under the ESPP, which will become effective upon the execution and delivery of the underwriting agreement for this offering;
- 2,340,816 shares of convertible preferred stock issuable upon the exercise of convertible preferred stock warrants (excluding our Series C-1 convertible preferred stock warrant) outstanding as of June 30, 2017, at a weighted-average exercise price of $1.03 per share, which warrants will convert into warrants to purchase 234,079 shares of common stock, at a weighted-average exercise price of $10.32 per share, immediately prior to the closing of the offering; and
- 3,006,088 shares of Series C-1 convertible preferred stock issuable upon the exercise of our Series C-1 convertible preferred stock warrant outstanding as of June 30, 2017, at an exercise price of approximately $0.01 per share, which will convert into a warrant to purchase 350,069 shares of common stock, at an exercise price of $0.0858713 per share, immediately prior to the closing of this offering.

Dilution

DILUTION

If you invest in our common stock in this offering, your ownership interest will be immediately diluted to the extent of the difference between the initial public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock after this offering.

Our historical net tangible book value (deficit) as of June 30, 2017, was approximately $(186.9) million, or $(41.08) per share of our common stock. Our historical net tangible book value (deficit) per share represents our total tangible assets less our total liabilities and convertible preferred stock, which is not included within stockholders' (deficit) equity, divided by the number of shares of common stock outstanding as of June 30, 2017.

Our pro forma net tangible book value as of June 30, 2017, was $27.3 million, or $1.10 per share of common stock. Pro forma net tangible book value gives effect to (1) the automatic conversion of all outstanding shares of our convertible preferred stock into 20,816,754 shares of common stock immediately prior to the closing of this offering and (2) the automatic conversion of our convertible preferred stock warrants into warrants to purchase an aggregate of 584,148 shares of our common stock immediately prior to the closing of this offering.

Pro forma as adjusted net tangible book value is our pro forma net tangible book value, plus the effect of (1) the sale of shares of our common stock in this offering at an assumed initial public offering price of $ per share (the midpoint of the range set forth on the cover of this prospectus), after deducting underwriting discounts and commissions and estimated offering expenses payable by us and (2) the application of approximately $ million of the net proceeds from this offering to prepay in full the outstanding indebtedness under our loan with Pinnacle Ventures L.L.C. This amount represents an immediate increase in pro forma as adjusted net tangible book value of $ per share to our existing stockholders, and an immediate dilution of $ per share to new investors participating in this offering.

The following table illustrates this dilution on a per share basis:

Assumed initial public offering price per share	$
Historical net tangible book value (deficit) per share as of June 30, 2017	$(41.08)
Increase per share attributable to the pro forma transactions described above	42.18
Pro forma net tangible book value per share as of June 30, 2017	1.10
Increase in pro forma net tangible book value per share attributable to investors participating in this offering	
Pro forma as adjusted net tangible book value per share after this offering	
Pro forma as adjusted dilution per share to investors participating in this offering	$

The dilution information discussed above is illustrative only and will change based on the actual initial public offering price and other terms of this offering determined at pricing. Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus) would increase (decrease) the pro forma as adjusted net tangible book value per share by approximately $ per share and the dilution per share to investors participating in this offering by approximately $ per share, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each 1.0 million increase (decrease) in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted net tangible book value per share to investors participating in this offering by approximately $ and decrease (increase) the dilution in pro forma per share to investors participating in this offering by approximately $, assuming no change in the assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover of this prospectus), and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise their over-allotment option in full, the pro forma as adjusted net tangible book value would increase to $ per share, representing an immediate increase in pro forma as adjusted net tangible book value to existing stockholders of $ per share and an immediate decrease of dilution of $ per share to investors participating in this offering.

The following table summarizes, on a pro forma as adjusted basis as of June 30, 2017, the number of shares purchased or to be purchased from us, the total consideration paid or to be paid to us, and the average price per share paid or to be paid to us by existing stockholders and investors participating in this offering at an assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover of this prospectus), before deducting underwriting discounts and commissions and estimated offering expenses payable by us. As the table below shows, investors participating in this offering will pay an average price per share substantially higher than our existing stockholders paid.

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders before this offering		%		$%	$
Investors participating in this offering					$
Total		100%		$100%	

Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus) would increase (decrease) the total consideration paid by investors participating in this offering by approximately $ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same

and before deducting underwriting discounts and commissions and estimated offering expenses payable by us.

The foregoing discussion and tables are based on 25,503,080 shares of common stock outstanding as of June 30, 2017, and excludes:

- 3,882,957 shares of common stock issuable upon the exercise of outstanding stock options as of June 30, 2017, at a weighted-average exercise price of $4.44 per share;
- shares of our common stock reserved for future issuance under the 2017 Plan, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2017 Plan;
- shares reserved for future issuance under the ESPP, which will become effective upon the execution and delivery of the underwriting agreement for this offering;
- 2,340,816 shares of convertible preferred stock issuable upon the exercise of convertible preferred stock warrants (excluding our Series C-1 convertible preferred stock warrant) outstanding as of June 30, 2017, at a weighted-average exercise price of $1.03 per share, which warrants will convert into warrants to purchase 234,079 shares of common stock, at a weighted-average exercise price of $10.32 per share, immediately prior to the closing of the offering; and
- 3,006,088 shares of Series C-1 convertible preferred stock issuable upon the exercise of our Series C-1 convertible preferred stock warrant outstanding as of June 30, 2017, at an exercise price of approximately $0.01 per share which will convert into a warrant to purchase 350,069 shares of common stock, at an exercise price of $0.0858713 per share, immediately prior to the closing of this offering.

We may choose to raise additional capital through the sale of equity or convertible debt securities due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent we issue additional shares of common stock or other equity or convertible debt securities in the future, there will be further dilution to investors participating in this offering.

If the underwriters exercise their over-allotment option in full, the number of shares of common stock held by existing stockholders will be reduced to , or % of the total number of shares of common stock to be outstanding after this offering, and the number of shares of common stock held by investors participating in this offering will be further increased to , or % of the total number of shares of common stock to be outstanding after this offering.

Selected Consolidated Financial Data

SELECTED CONSOLIDATED FINANCIAL DATA The selected consolidated balance sheet data for the year ended December 31, 2014 is derived from our audited consolidated financial statements not included herein. The selected consolidated statements of operations data for the years ended December 31, 2014, 2015 and 2016 and the consolidated balance sheets data for the years ended December 31, 2016 and 2015 are derived from our audited consolidated financial statements included elsewhere in this prospectus. The summary consolidated statements of operations data presented below for the six months ended June 30, 2016 and 2017, and the consolidated balance sheet data as of June 30, 2017, are derived from our unaudited interim consolidated financial statements included elsewhere in this prospectus. The unaudited interim consolidated financial statements were prepared on a basis consistent with our audited consolidated financial statements and, in the opinion of management, include all adjustments of a normal, recurring nature that are necessary for the fair presentation of the financial statements. The selected consolidated financial data below have been updated to reflect the completion of the 1-for-10 reverse stock split of our common stock which was effected on October 5, 2017 and should be read in conjunction with the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements and related notes included elsewhere in this prospectus. The selected consolidated financial data in this section are not intended to replace, and are qualified in their entirety by, our consolidated financial statements and the related notes included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that may be expected for any period in the future and our results for the six months ended June 30, 2017 are not necessarily indicative of the results to be expected for the full year.

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
	(in thousands, except share and per share data)				
Revenue	$24,500	$80,807	$86,675	$41,374	$48,807
Cost of revenue[(1)]	16,189	41,511	34,064	16,183	20,959
Gross profit	8,311	39,296	52,611	25,191	27,848

Operating expenses:					
Research and development[1]	27,343	25,262	36,553	17,301	20,944
Sales and marketing[1]	2,142	3,756	5,347	2,873	3,456
General and administrative[1]	4,403	6,284	7,124	3,796	4,475
Collaboration and development charge[2]	—	12,024	—	—	—
Total operating expenses	33,888	47,326	49,024	23,970	28,875
Income (loss) from operations	(25,577)	(8,030)	3,587	1,221	(1,027)
Other income (expense):					
Interest expense	(2,164)	(3,321)	(3,334)	(1,871)	(1,016)
Change in fair value of convertible preferred stock warrant liability	(15)	1,591	(544)	78	(1,700)
Other income, net	12	5	14	3	28
Total other income (expense)	(2,167)	(1,725)	(3,864)	(1,790)	(2,688)
Loss before income tax expense	(27,744)	(9,755)	(277)	(569)	(3,715)
Provision for (benefit from) income taxes	56	200	168	106	(358)
Net loss attributable to common stockholders and comprehensive loss	$(27,800)	$(9,955)	$(445)	$(675)	$(3,357)
Net loss per share attributable to common stockholders, basic and diluted[3]	$(24.83)	$(6.64)	$(0.10)	$(0.17)	$(0.74)
Weighted-average shares used to compute net loss per share, basic and diluted[3]	1,119,632	1,498,233	4,240,461	4,055,411	4,549,015
Pro forma net income (loss) per share attributable to common stockholders, basic and diluted[3]			$0.00		$(0.07)
Weighted-average shares used to compute pro forma net loss per share, basic[3]			24,074,289		24,697,392
Weighted-average shares used to compute pro forma net income per share, diluted[3]			28,465,903		24,697,392

(1) Stock-based compensation included in the consolidated statements of operations data above was as follows:

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
	(in thousands)				
Cost of revenue	$10	$19	$31	$15	$14
Research and development	382	373	489	206	293
Sales and marketing	36	71	95	46	64
General and administrative	430	329	324	182	178
Total	$858	$792	$939	$449	$549

(2) Collaboration and development charge represents the fair value of a fully vested warrant to purchase 9,756,160 shares of Series H convertible preferred stock issued to GLOBALFOUNDRIES U.S. Inc., which was exercised in full on May 5, 2017. See Notes 2 and 18 to our audited consolidated financial statements included elsewhere in this prospectus.

(3) See Note 15 to our audited consolidated financial statements included elsewhere in this prospectus for an explanation of the calculations of our basic and diluted net loss per share attributable to common stockholders, pro forma net loss per share attributable to common stockholders, and the number of weighted-average shares used to compute the per share amounts.

	As of December 31,			As of June 30,
	2014	2015	2016	2017
	(in thousands)			
Consolidated Balance Sheet Data:				
Cash and cash equivalents	$7,056	$34,290	$28,893	$17,369
Working capital	9,397	38,305	26,268	19,494
Total assets	20,571	66,565	65,709	62,882
Total debt	23,308	28,909	18,229	18,351
Convertible preferred stock warrant liability	1,863	12,346	12,885	3,847
Total liabilities	35,483	52,299	46,082	34,510
Convertible preferred stock	162,183	199,153	199,434	210,269
Total stockholders' deficit	(177,095)	(184,887)	(179,807)	(181,897)

Management's Discussion and Analysis of Financial Condition and Results of Operations

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS *You should read the following discussion and analysis of our financial condition and results of operations together with the consolidated financial statements and related notes that are included elsewhere in this prospectus. This discussion contains forward-looking statements based upon current plans, expectations and beliefs that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under "Risk Factors" and in other parts of this prospectus.*

Overview

We are a leader in the design, development and marketing of advanced high-speed communications integrated circuits, or ICs, for Ethernet connectivity in the data center, enterprise infrastructure and access markets. Our Ethernet solutions provide a critical interface between the high-speed analog signals transported over wired infrastructure and the digital information used in computing and networking equipment. Our products are designed to cost-effectively deliver leading-edge data speeds for use in the latest generation of communications infrastructure to alleviate network bandwidth bottlenecks caused by the exponential growth of global Internet Protocol, or IP, traffic. Many of our semiconductor solutions have established benchmarks in the industry in terms of performance, power consumption and density. Our innovative solutions enable our customers to differentiate their product offerings, position themselves to gain market share and drive the ongoing equipment infrastructure upgrade cycles in the data center, enterprise infrastructure and access markets.

We are a fabless semiconductor company. We have shipped more than 10 million ports to customers across three semiconductor process generations, and are currently in mass production in 28nm process node. 28nm and other silicon process geometries, such as 40nm and 90nm, refer to the size of the process node in nanometers for a particular semiconductor manufacturing process. Our end customers include Aruba (acquired by Hewlett-Packard Enterprise in 2015), Brocade, Cisco, Dell, Hewlett-Packard Enterprise, Huawei, IBM, Intel, Juniper, Oracle and Ruckus (acquired by Brocade in 2016). For the years ended December 31, 2014, 2015 and 2016, our revenue was $24.5 million, $80.8 million and $86.7 million, respectively, our net loss attributable to common stockholders was $27.8 million, $10.0 million and $0.4 million, respectively, and our non-GAAP net income (loss) was $(26.8) million, $1.3 million and $1.1 million, respectively. For the six months ended June 30, 2016 and 2017, our revenue was $41.4 million and $48.8 million, respectively, our net loss attributable to common stockholders was $0.7 million and $3.4 million, respectively, and our non-GAAP net loss was $0.3 million and $1.1 million, respectively. See the section titled "Prospectus Summary—Summary Consolidated Financial Data—Non-GAAP Financial Measures" for additional information regarding non-GAAP financial measures and a reconciliation of non-GAAP financial measures to the most directly comparable GAAP financial measures.

We derive revenue from our products, which include our 10GBASE-T physical layer devices, or PHYs, custom ASICs for Intel and our recently developed AQrate product line. We currently generate revenue from the sale of our products directly to IC suppliers, original equipment manufacturers, or OEMs, and original design manufacturers, or ODMs. We market and sell our products through our direct sales force.

We shipped our first products in 2009. Historically, a significant portion of our revenue has been generated from our largest customer, Intel, including sales to contract manufacturers or ODMs at the direction of this customer in the data center market. In the year ended December 31, 2014, Intel accounted for 68% of our revenue and Brocade accounted for 10% of our revenue. For the years ended December 31, 2015 and 2016, Intel accounted for 78% and 68% and Cisco accounted for 13% and 21% of our revenue, respectively. For the six months ended June 30, 2017, Intel accounted for 65% and Cisco accounted for 27% of our revenue, respectively. Our 10 largest customers collectively accounted for 99%, 98%, 98% and 98% of our revenue in the years ended December 31, 2014, 2015 and 2016 and the six months ended June 30, 2017, respectively. To continue to grow our revenue, it is important that we acquire new customers and sell additional products to our existing customers.

While we intend to expand our customer base over time, the markets we serve tend to be highly concentrated, and we expect that a large portion of our revenue will continue to be derived from a relatively small number of customers for the foreseeable future.

Key Factors Affecting Our Performance

Pricing and Product Cost. Our pricing and margins depend on the volumes and the features of the ICs we provide to our customers. We believe the primary driver of gross margin is the average selling prices, or ASPs, negotiated between us and our customers relative to volume, material costs and yield improvement. Typically, our selling prices are contractually set for multiple quarters and our prototype selling prices are higher than our selling prices at volume production. In certain cases, we have agreed in advance to modest price reductions, generally over a period of time ranging from 18 months to five years, once the specified product begins to ship in volume. However, our customers may change their purchase orders and demand forecasts at any time with limited notice, which can sometimes lead to price renegotiations. Although these price renegotiations can sometimes result in ASPs of our products fluctuating over the shorter term, we expect ASPs generally to decline over the longer term as our products mature. These declines often coincide with improvements in manufacturing yields and lower wafer, assembly and testing costs, which offset some or all of the margin reduction that results from lower ASPs. Since we rely on third-party wafer foundries and assembly and test contractors to manufacture, assemble and test our ICs, we maintain a close relationship with our suppliers to improve quality, increase yields and lower manufacturing costs. In addition, our customers may seek to renegotiate product pricing under the contracts or purchase orders we have with them based on volume or other factors, which could drive fluctuations in ASPs.

Design Wins with New and Existing Customers. Our existing and prospective customers tend to be multinational enterprises with large annual purchases of ICs that are continuously developing new products for existing and new application areas. Our solutions enable our customers to differentiate their product offerings and position themselves to gain market share and drive the next upgrade cycles in data center and enterprise infrastructure. We have programs in place to help our existing customers use our solutions throughout their product portfolio, and we work closely with our existing and prospective customers to understand their product roadmaps and strategies. Because of our extended sales cycle, our revenue in future years is highly dependent on design wins we are awarded today. Further, because we expect our revenue relating to our mature products to decline in the future, we consider design wins critical to our future success and anticipate being increasingly dependent on revenue from newer design wins for our newer products.

Customer Demand and Product Life Cycles. Once customers design our ICs into their products, we closely monitor all phases of the product life cycle, including the initial design phase, prototype production, volume production and inventories. For example, during the periods presented, we had several products progressing through their product life cycles. In the data center market, the majority of our revenue for the periods presented was derived from our 10GBASE-T custom ASIC product, which we refer to as Twinville. In late 2015, we introduced and began to record revenue from our Sageville and Coppervale products. We anticipate that our Twinville product will transition to these two newer ASIC products over time, although the timing and rate of such transition will depend on our customers' adoption of these products and the demand for our customers' products. In the enterprise infrastructure market, during the periods presented, we developed our 5GBASE-T and 2.5GBASE-T AQrate product. We first shipped our AQrate products into the enterprise infrastructure market in the fourth quarter of 2014. We began shipping AQrate products in volume in 2015 and 2016. We also started to ship our multiple lines of products into the access market in the fourth quarter of 2016. We expect the revenue from our AQrate products, and therefore the percentage of our total revenue attributable to the enterprise infrastructure and access markets, to increase from the current levels.

We also carefully monitor changes in customer demand and end-market demand, including seasonality, cyclicality and the competitive landscape. Our customers share their development schedules with us, including the projected launch dates of their product offerings. Once our customers are in production, they generally will provide nine to 12-month forecasts of expected demand, which gives us an indication of future demand. However, our customers may change their purchase orders and demand forecasts at any time with limited notice. In light of our significant customer concentration, our revenue is likely to be materially and disproportionally due in part to fluctuating end-market demand impacted by the purchasing decisions of our largest customers.

Seasonality

Our revenue is subject to some seasonal variation as we begin to serve many markets and end-markets which historically experience lower sales in the first quarter of the year which may result in slower growth and lower sales as compared to other quarters.

Components of Results of Operations

Revenue

We generate revenue from the sale of our products. We sell our products direct to our customers and to our customers' manufacturing subcontractors, and do not currently have a material amount of revenue sold to distributors during the sales process. We offer a limited number of customer rebates and accrue an estimate of such rebates at the time revenue is recognized. Such rebates were not material in any of the periods presented, and the differences between the actual amount of such rebates and our estimates also were not material. Revenue is recognized when delivery has occurred, persuasive evidence of an arrangement exists, the price is fixed or determinable, and collection of the resulting receivable is reasonably assured. Delivery is considered to have occurred when title and risk of loss have passed to the customer. There are no circumstances where revenue is recognized prior to delivery. Customer purchase orders are generally used to determine the existence of an arrangement. We evaluate whether the price is fixed or determinable based on the payment terms associated with the transaction. With respect to collectability, we perform credit checks for new customers and perform ongoing evaluations of our existing customers' financial condition. We defer revenue if any revenue recognition criteria have not been met. In 2009, we entered into a multiple-element agreement with Intel resulting in an aggregate of $12.5 million of deferred revenue to be amortized over the estimated term through June 30, 2016. The revenue recognized for the years ended December 31, 2014, 2015 and 2016 was $3.1 million, $3.1 million and $1.6 million, respectively. This revenue is non-recurring for future periods and we cannot predict if we will be able to enter into similar arrangements in the future periods. See Note 8 to our audited consolidated financial statements included elsewhere in this prospectus for more information about this arrangement.

Our success and future revenue depend on our ability to achieve design wins and to convince our current and prospective customers to design our products into their product offerings. In addition, our revenue may fluctuate as a result of a variety of factors including customer demand and product life cycles, product cost and product mix sold during the period.

In the fourth quarter of 2014, we first began to ship into the enterprise infrastructure market and began shipping in volume in 2015. Due to the introduction of our AQrate products, we anticipate that revenue from the enterprise infrastructure market will grow at a greater rate than revenue from the data center market over the next two years. In the fourth quarter of 2016, we started to sample our first access market products. We believe that this market will represent a significant portion of our revenue in the near future.

We anticipate that our revenue will fluctuate based on a variety of factors including the amount and timing of customer and end-market demand, product life cycles, average selling price which declines as our product reaches maturity, production schedule, and product mix sold during the period. In addition, we may introduce new products at lower average selling price than our existing products with the intent of increasing the market demand for our products, which may cause a fluctuation in our revenues during the period in which these new products are introduced.

Cost of Revenue

Cost of revenue consists of costs of materials, primarily wafers processed by third-party foundries, costs associated with packaging, assembly and testing paid to our third-party contract manufacturers, and personnel and other costs associated with our manufacturing operations. Our cost of revenue also includes allocation of overhead and facility costs, depreciation of production equipment, inventory write-downs and amortization of production mask costs. As we introduce new products, the cost of revenue will fluctuate depending on yield, volume and production cost of these products.

Gross Margin

Gross margin, or gross profit as a percentage of revenue, has been, and will continue to be, affected by a variety of factors, including product mix, ASPs, material costs, production costs that are themselves dependent upon improvements to yield, production efficiencies, elimination or addition to production processes as required by our end customers and timing of such improvements, and increasing manufacturing overhead to support the greater number of products and markets we serve.

We expect our gross margin to fluctuate on a quarterly basis as a result of changes in ASPs due to new product introductions, existing product transitions to high-volume manufacturing, product maturation and fluctuations in manufacturing costs.

Operating Expenses

Our operating expenses consist of research and development, sales and marketing and general and administrative expenses, and a collaboration and development charge. Personnel costs are the most significant component of our operating expenses and consist of salaries, benefits, bonuses, stock-based compensation and commissions. Our operating expenses also include allocated costs of facilities,

information technology, depreciation and amortization. Although our operating expenses may fluctuate, we expect our overall operating expenses to increase in absolute dollars over time.

- *Research and Development.* Our research and development expenses consist primarily of personnel costs, pre-production engineering mask costs, software license and intellectual property expenses, design tools and prototype-related expenses, facility costs, supplies and depreciation expense. We expense research and development costs as incurred. In addition, we enter into development agreements with some of our customers that provide fees that partially offset development costs. Such fees are recognized upon completion of the contract deliverables or milestones, and acceptance by the customer if required. We believe that continued investment in our products and services is important for our future growth and acquisition of new customers and, as a result, we expect our research and development expenses to continue to increase on an absolute basis.

- *Sales and Marketing.* Sales and marketing expenses consist of personnel costs, field application engineering support, travel costs, professional and consulting fees and allocated overhead costs. We expect sales and marketing expense to increase in absolute dollars as we increase our sales and marketing personnel and grow our international operations.

- *General and Administrative.* General and administrative expenses consist of personnel costs, professional and consulting fees, legal and allocated overhead costs. We expect general and administrative expense to increase in absolute dollars as we grow our operations and incur additional expenses associated with operating as a public company.

- *Collaboration and Development Charge.* Collaboration and development charge in the first quarter of 2015 represents the fair value of a fully vested convertible preferred stock warrant exercisable for 9,756,160 shares of Series H convertible preferred stock, which was exercised in full on May 5, 2017. This warrant was issued to GLOBALFOUNDRIES U.S. Inc., or GLOBALFOUNDRIES, at an exercise price of $0.01 per share in connection with a letter agreement to collaborate on the development of products that we plan to have manufactured by GLOBALFOUNDRIES upon qualification. We do not expect to incur further such charges associated with this agreement.

Other Income (Expense)

Other income (expense) consists primarily of interest expense on our outstanding debt, change in fair value of preferred stock warrant liability and foreign exchange gains and losses. See Note 10 to our audited consolidated financial statements included elsewhere in this prospectus for more information about our debt.

Convertible preferred stock warrants are classified as liabilities on our consolidated balance sheets and remeasured to fair value at each balance sheet date with the corresponding change recorded as other income (expense). Upon the earlier of the exercise of the warrants or the completion of a liquidation event, including the completion of this offering, the liability will be reclassified to convertible preferred stock or stockholders' equity (deficit), at which time it will no longer be subject to fair value accounting. See Note 11 to our audited consolidated financial statements for more information about our convertible preferred stock warrants.

Income Tax Expense

Income tax expense consists primarily of state income taxes and income taxes in certain foreign jurisdictions in which we conduct business. We have a full valuation allowance for deferred tax assets as the realization of the full amount of our deferred tax assets is uncertain, including net operating loss, or NOL, carryforwards, and tax credits related primarily to research and development. We expect to maintain this full valuation allowance until realization of the deferred tax assets becomes more likely than not.

At December 31, 2016, we had NOL carryforwards of approximately $171.3 million and $102.3 million for U.S. federal and state income tax purposes, respectively, and had research and development tax credit carryforwards of approximately $6.1 million and $6.8 million for U.S. federal and state income tax purposes, respectively. The NOL carryforwards begin to expire in 2025 for U.S. federal income tax purposes and begin to expire in 2017 for state income tax purposes. The U.S. federal tax credit carryforwards begin to expire in 2026 and the state tax credits carry forward indefinitely.

Internal Revenue Code Section 382 and similar California rules place a limitation on the amount of taxable income that can be offset by NOL carryforwards after a change in control (generally greater than 50% in ownership). Generally, after a control change, a corporation cannot deduct NOL carryforwards in excess of the Section 382 limitations. Due to these provisions, utilization of NOL and tax credit carryforwards may be subject to annual limitations regarding their utilization against taxable income in future periods. We completed a Section 382 analysis and determined an ownership change occurred in July 2005 and November 2009, which resulted in reductions to our U.S. federal and California net operating losses of $35.5 million and $34.3 million, respectively, and U.S. federal research and development credits by $1.8 million.

Results of Operations

The following table summarizes our results of operations for the periods presented. The period-to-period comparison of results is not necessarily indicative of results to be expected for future periods.

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
	(in thousands)				
Consolidated Statements of Operations Data:					
Revenue	$24,500	$80,807	$86,675	$41,374	$48,807
Cost of revenue	16,189	41,511	34,064	16,183	20,959
Gross profit	8,311	39,296	52,611	25,191	27,848
Operating expenses:					
Research and development	27,343	25,262	36,553	17,301	20,944
Sales and marketing	2,142	3,756	5,347	2,873	3,456
General and administrative	4,403	6,284	7,124	3,796	4,475
Collaboration and development charge	—	12,024	—	—	—
Total operating expenses	33,888	47,326	49,024	23,970	28,875
Income (loss) from operations	(25,577)	(8,030)	3,587	1,221	(1,027)
Other income (expense):					
Interest expense	(2,164)	(3,321)	(3,334)	(1,871)	(1,016)
Change in fair value of convertible preferred stock warrant liability	(15)	1,591	(544)	78	(1,700)
Other income, net	12	5	14	3	28
Total other income (expense)	(2,167)	(1,725)	(3,864)	(1,790)	(2,688)
Loss before income tax expense	(27,744)	(9,755)	(277)	(569)	(3,715)
Provision for (benefit from) income taxes	56	200	168	106	(358)
Net loss attributable to common stockholders	$(27,800)	$(9,955)	$(445)	$(675)	$(3,357)

The following table summarizes our results of operations as a percentage of revenue for each of the periods indicated:

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
Consolidated Statements of Operations Data:					
Revenue	100%	100%	100%	100%	100%
Cost of revenue	66	51	39	39	43
Gross profit	34	49	61	61	57
Operating expenses:					
Research and development	112	31	43	42	44
Sales and marketing	9	5	6	7	7
General and administrative	18	8	8	9	9
Collaboration and development charge	—	15	—	—	—
Total operating expenses	139	59	57	58	60
Income (loss) from operations	(105)	(10)	4	3	(3)
Other income (expense):					
Interest expense	(9)	(4)	(4)	(5)	(2)
Change in fair value of convertible preferred stock warrant liability	—	2	(1)	—	(3)
Other income, net	—	—	—	—	—

Total other income (expense)	(9)	(2)	(5)	(5)	(5)
Loss before income tax expense	(114)	(12)	(1)	(2)	(8)
Provision for (benefit from) income taxes	–	–	–	–	(1)
Net loss attributable to common stockholders and comprehensive loss	(114)%	(12)%	(1)%	(2)%	(7)%

Non-GAAP Financial Measures

We use the financial measures set forth below, which are non-GAAP financial measures, to help us analyze our financial results, establish budgets and operational goals for managing our business and to evaluate our performance. We also believe that the presentation of these non-GAAP financial measures in this prospectus provides an additional tool for investors to use in comparing our core business and results of operations over multiple periods with other companies in our industry, many of which present similar non-GAAP financial measures to investors. However, the non-GAAP financial measures presented in this prospectus may not be comparable to similarly titled measures reported by other companies due to differences in the way that these measures are calculated. The non-GAAP financial measures presented in this prospectus should not be considered as the sole measure of our performance and should not be considered in isolation from, or as a substitute for, comparable financial measures calculated in accordance with GAAP.

The information in the table below sets forth the non-GAAP financial measures that we use in this prospectus.

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
	(dollars in thousands)				
Non-GAAP net income (loss)	$(26,757)	$1,303	$1,071	$(288)	$(1,092)
Adjusted EBITDA	(22,819)	6,642	7,266	2,869	1,728
Adjusted EBITDA margin	(93%)	8%	8%	7%	4%

Non-GAAP Net Income (Loss). We define non-GAAP net income (loss) as net loss attributable to common stockholders reported on our consolidated statements of operations and comprehensive loss, excluding the impact of the following non-cash charges: stock-based compensation, a collaboration and development charge, change in fair value of convertible preferred stock warrant liability and amortization of acquired intangibles resulting from business combination. We have presented non-GAAP income (loss) from operations because we believe that the exclusion of these non-cash charges allows for a more accurate comparison of our results of operations to other companies in our industry.

Adjusted EBITDA and Adjusted EBITDA Margin. We define adjusted EBITDA as our net loss attributable to common stockholders excluding: (1) stock-based compensation; (2) depreciation and amortization; (3) interest expense; (4) a collaboration and development charge; (5) change in fair value of convertible preferred stock warrant liability; (6) other income, net; and (7) income tax expense. We define adjusted EBITDA margin as adjusted EBITDA divided by revenue. We have presented adjusted EBITDA and adjusted EBITDA margin because we believe they are important measures used by industry analysts and investors to compare our performance against that of our peer group and they provide a useful measure for period-to-period comparisons of our core operating performance.

See the section titled “Prospectus Summary—Summary Consolidated Financial Data—Non-GAAP Financial Measures” for additional information regarding non-GAAP financial measures and a reconciliation of non-GAAP financial measures to the most directly comparable GAAP financial measures.

Comparison of the Six Months Ended June 30, 2016 and 2017

Revenue

	Six Months Ended June 30,		Change	
	2016	2017		$%
	(dollars in thousands)			
Revenue by market				
Data center	$29,259	$32,760	$3,501	12%
Enterprise infrastructure	12,115	15,375	3,260	27
Access	–	580	580	*
Automotive	–	92	92	*

Total Revenue	$41,374	$48,807	$7,433	18

* Percentage change not meaningful

Revenue increased by $7.4 million, or 18%, for the six months ended June 30, 2017 compared to the six months ended June 30, 2016, primarily attributable to a $3.3 million increase in product sales volume sold to the enterprise infrastructure market, while ASP impact for products in volume production was not significant, and $0.6 million in products sold to the access market, which is a new market since the fourth quarter of 2016, and a $3.5 million increase in revenue to the data center market. The $3.5 million increase in the data center market revenue consisted of higher unit sales of $7.9 million due to fluctuating customer demand, offset by $2.8 million related to lower ASP due to product mix and a $1.6 million impact on non-recurring deferred revenue recognized for the six months ended June 30, 2016.

Cost of Revenue, Gross Profit and Gross Margin

	Six Months Ended June 30,		Change	
	2016	2017	$	%
	(dollars in thousands)			
Cost of revenue	$16,183	$20,959	$4,776	30%
Gross Profit	$25,191	$27,848	$2,657	11%
Gross Margin	61%	57%		(4)pts

Cost of revenue increased by $4.8 million, or 30%, for the six months ended June 30, 2017 compared to the six months ended June 30, 2016. The increase was primarily due to $5.6 million of product costs on higher unit sales, offset by $1.1 million in lower manufacturing costs related to products sold as the production process matured.

Gross profit increased by $2.7 million, or 11%, for the six months ended June 30, 2017 compared to the six months ended June 30, 2016. For the six months ended June 30, 2017, our gross margin decreased by 4%. The gross margin decrease was primarily due to the impact of $1.6 million of the aforementioned deferred revenue recognized for the six months ended June 30, 2016, which approximates 4% of total revenue for the six months ended June 30, 2016.

Operating Expenses

	Six Months Ended June 30,		Change	
	2016	2017	$	%
	(dollars in thousands)			
Operating expenses:				
Research and development	$17,301	$20,944	$3,643	21%
Sales and marketing	2,873	3,456	583	20
General and administrative	3,796	4,475	679	18
Total operating expenses	$23,970	$28,875	$4,905	20

Research and development expenses increased $3.6 million, or 21%, for the six months ended June 30, 2017 compared to the six months ended June 30, 2016, primarily due to an increase of $1.9 million in personnel-related costs as we continued to expand our research and development headcount, $0.6 million in design tools and prototype-related expenses and $0.7 million in depreciation and amortization related to lab equipment and licenses, and a $0.5 million decrease in product development fees received from a customer in the prior year, which fees offset our research and development costs.

Sales and marketing expenses increased $0.6 million, or 20%, for the six months ended June 30, 2017 compared to the six months ended June 30, 2016, primarily due to an increase in personnel-related costs of $0.4 million and marketing tradeshow costs of $0.1 million.

General and administrative expenses increased $0.7 million, or 18%, for the six months ended June 30, 2017 compared to the six months ended June 30, 2016, primarily due to an increase of $0.3 million for consulting and $0.3 million in legal and audit fees incurred.

Other Income (Expense)

	Six Months Ended June 30,		Change
	2016	2017	$

	(dollars in thousands)			
Other income (expense):				
Interest expense	$(1,871)	$(1,016)	$855	(46)%
Change in fair value of convertible preferred stock warrant liability	78	(1,700)	(1,778)	*
Other income, net	3	28	25	*
Total other income (expense):	$(1,790)	$(2,688)	$(898)	50

* Percentage change not meaningful

Other expense for the six months ended June 30, 2017 increased by $0.9 million compared to the six months ended June 30, 2016 and primarily reflected $1.8 million in non-cash expense resulted in increase in the fair value of the convertible preferred stock warrant liability, offset by $0.9 million in lower interest expense as the principal of the debt was being repaid.

We will continue to record adjustments to the fair value of these warrants at each balance sheet date until the earlier of the exercise of the warrants or the completion of a liquidation event, including the completion of this offering, at which time, the liability will be reclassified to convertible preferred stock or stockholders' equity (deficit) and will no longer be subject to fair value accounting.

Income Tax Expense

	Six Months Ended June 30,		Change	
	2016	2017		$%
	(dollars in thousands)			
Provision for (benefit from) Income taxes	$106	$(358)	$(464)	*%

Income tax expense decreased by $0.5 million for the six months ended June 30, 2017 compared to the six months ended June 30, 2016, primarily due to a research credit benefit from a foreign tax jurisdiction, offset by higher income tax related to our foreign subsidiaries.

Comparison of the Years Ended December 31, 2015 and 2016

Revenue

	Year Ended December 31,		Change	
	2015	2016		$%
	(dollars in thousands)			
Revenue by market				
Data center	$72,549	$64,024	$(8,525)	(12)%
Enterprise infrastructure	8,258	22,476	14,218	172
Access	—	175	175	*
Total Revenue	$80,807	$86,675	$5,868	7

* Percentage change not meaningful

Revenue increased by $5.9 million, or 7%, for the year ended December 31, 2016 compared to the year ended December 31, 2015, primarily due to an increase of $14.2 million, or 172%, an increase in enterprise infrastructure market revenue, offset by a decrease of $8.5 million in data center market revenue. The increase in enterprise infrastructure market revenue was primarily due to $18.4 million in higher unit sales, offset by $4.4 million attributable to lower ASPs as products sold were transitioning to volume production. The decrease in data center market revenue was primarily due to $10.4 million in lower unit sales due to fluctuating customer demand, partially offset by an increase of $3.4 million attributable to higher ASP due to product mix. In addition, data center market revenue included the recognition of deferred revenue in the year ended December 31, 2016 of $1.6 million as compared to $3.1 million for the year ended December 31, 2015 as the deferred revenue was fully recognized by June 30, 2016.

Cost of Revenue, Gross Profit and Gross Margin

	Year Ended December 31,		Change	

	2015	2016		$%	
	(dollars in thousands)				
Cost of revenue	$41,511	$34,064	$(7,447)	(18)%	
Gross Profit	$39,296	$52,611	$13,315	34%	
Gross Margin	49%	61%		12	pts

Cost of revenue decreased by $7.4 million, or 18% for the year ended December 31, 2016 compared to the year ended December 31, 2015. The decrease was primarily related to savings from yield improvements achieved through quality assurance processes with our manufacturers and cost reductions from our supply chain achieved through negotiation on production and material costs, partially offset by the higher direct operations costs of managing a greater number of products across multiple markets.

Gross profit increased by $13.3 million, or 34%, for the year ended December 31, 2016 compared to the year ended December 31, 2015. For the year ended December 31, 2016, our gross margin increased by 12 percentage points. Adjusted for the $3.1 million and $1.6 million of the aforementioned deferred revenue recognized in each period which is non-recurring after June 2016, our adjusted gross margin would have been 47% and 60% for the years ended December 31, 2015 and 2016, respectively, resulting in 13 percentage points increase. The increase in gross margin was due to yield improvement and cost reductions from our supply chain.

Operating Expenses

	Year Ended December 31,		Change	
	2015	2016		$%
	(dollars in thousands)			
Operating expenses:				
Research and development	$25,262	$36,553	$11,291	45%
Sales and marketing	3,756	5,347	1,591	42
General and administrative	6,284	7,124	840	13
Collaboration and development charge	12,024	—	(12,024)	*
Total operating expenses	$47,326	$49,024	$1,698	4

* Percentage change not meaningful

Research and development expenses increased $11.3 million, or 45%, for the year ended December 31, 2016 compared to the year ended December 31, 2015, primarily due to an increase of $5.3 million in personnel-related costs as we continued to expand our research and development headcount, an increase of $1.1 million in design tools and prototype-related expenses and $4.8 million decrease in product development fees received from our customers in the prior year, which fees offset our research and development costs.

Sales and marketing expenses increased $1.6 million, or 42%, for the year ended December 31, 2016 compared to the year ended December 31, 2015, primarily due to an increase of $1.0 million in personnel-related costs as we increased our headcount to support our growth, and an increase of $0.2 million in consulting fees and third party commissions.

General and administrative expenses increased $0.8 million, or 13%, for the year ended December 31, 2016 compared to the year ended December 31, 2015, primarily due to an increase of $0.9 million in personnel-related costs.

Collaboration and development charge represents the fair value of a fully vested warrant to purchase 9,756,160 shares of Series H convertible preferred stock issued to GLOBALFOUNDRIES in 2015, which was subsequently exercised in full on May 5, 2017.

Other Income (Expense)

	Year Ended December 31,		Change	
	2015	2016		$%
	(dollars in thousands)			
Other income (expense):				
Interest expense	$(3,321)	$(3,334)	$(13)	—%
Change in fair value of convertible preferred stock warrant liability	1,591	(544)	(2,135)	*

Other income, net	5	14	9	*
Total other income (expense):	$(1,725)	$(3,864)	$(2,139)	*

* Percentage change not meaningful

Other income (expense) for the year ended December 31, 2016 increased $2.1 million compared to the year ended December 31, 2015 primarily due to the change in fair value of the convertible preferred stock warrant liability.

We will continue to record adjustments to the fair value of these warrants at each reporting period until the earlier of the exercise of the warrants or the completion of a liquidation event, including the completion of this offering, at which time, the liability will be reclassified to convertible preferred stock or stockholders' equity (deficit) and will no longer be subject to fair value accounting.

Income Tax Expense

	Year Ended December 31,		Change	
	2015	2016		$%
	(dollars in thousands)			
Income tax expense	$200	$168	$(32)	(16)%

Income tax expense decreased by $32,000 for the year ended December 31, 2016 compared to the year ended December 31, 2015, primarily due to a decrease in the U.S. alternative minimum tax that was reduced by available credits. Our consolidated effective tax rate for the year ended December 31, 2016 was (61)% compared to (2)% for the year ended December 31, 2015 mainly due to a smaller loss before income tax balance. The consolidated effective tax rate for the year ended December 31, 2016 differed from the U.S. statutory rate primarily due to the impact of changes in reserves for uncertain tax positions and in the valuation allowance for deferred tax assets, offset by the impact of higher state taxes and research and development credit.

Comparison of the Years Ended December 31, 2014 and 2015

Revenue

	Year Ended December 31,		Change	
	2014	2015		$%
	(dollars in thousands)			
Revenue by market				
Data center	$23,931	$72,549	$48,618	203%
Enterprise infrastructure	569	8,258	7,689	*
Total revenue	$24,500	$80,807	$56,307	230

* Percentage change not meaningful

Revenue increased by $56.3 million, or 230%, for the year ended December 31, 2015 compared to the year ended December 31, 2014, primarily due to $50.0 million, or 103%, in higher unit volumes of our data center products sold to our largest customer, offset by $1.4 million, or 3%, attributable to lower ASP. In addition, the $7.6 million increase in enterprise infrastructure market revenue for the year ended December 31, 2015 resulted from the increase in volumes of our AQrate products in 2015, which we first began to ship into the enterprise infrastructure market in the fourth quarter of 2014 and began shipping in volume in 2015. Due to the introduction of our AQrate products, we anticipate that revenue from the enterprise infrastructure market will grow at a greater rate than revenue from the data center market over the next two years.

Cost of Revenue, Gross Profit and Gross Margin

	Year Ended December 31,		Change	
	2014	2015		$%
	(dollars in thousands)			
Cost of revenue	$16,189	$41,511	$25,322	156%
Gross profit	$8,311	$39,296	$30,985	373%

Gross margin	34%	49%	15	pts

Cost of revenue increased by $25.3 million, or 156% for the year ended December 31, 2015 compared to the year ended December 31, 2014. The increase was primarily related to costs associated with an increase in the volume of products sold.

Gross profit increased by $31.0 million, or 373%, for the year ended December 31, 2015 compared to the year ended December 31, 2014. For the year ended December 31, 2015, our gross margin increased by 15 percentage points due to yield improvement and cost reductions from our supply chain as the result of higher production volumes. This increase in gross margin was partially offset by a lower ASP of approximately 3% for our Twinville product for the year ended December 31, 2015 compared to the year ended December 31, 2014.

Operating Expenses

	Year Ended December 31,		Change	
	2014	2015		$%
	(dollars in thousands)			
Operating expenses:				
Research and development	$27,343	$25,262	$(2,081)	(8)%
Sales and marketing	2,142	3,756	1,614	75
General and administrative	4,403	6,284	1,881	43
Collaboration and development charge	—	12,024	12,024	*
Total operating expenses	$33,888	$47,326	$13,438	40

* Percentage change not meaningful

Research and development expenses decreased $2.1 million, or 8%, for the year ended December 31, 2015 compared to the year ended December 31, 2014, primarily due to an increase of $4.8 million in product development fees from our customers (which offset expenses) and a $3.3 million decrease in engineering mask costs. This decrease was partially offset by an increase of $3.3 million in personnel costs as we increased our headcount to support continued investment in our future product offerings, a $2.4 million increase in costs related to the expansion of our international offices and a $0.3 million increase in design tools and prototype-related expenses.

Sales and marketing expenses increased $1.6 million, or 75%, for the year ended December 31, 2015 compared to the year ended December 31, 2014, primarily due to an increase of $1.3 million in personnel costs as we increased our headcount to support our growth, and an increase of $0.4 million in facility and IT costs.

General and administrative expenses increased $1.9 million, or 43%, for the year ended December 31, 2015 compared to the year ended December 31, 2014, due to an increase of $1.5 million in professional services and legal fees and a $0.4 million increase in personnel costs primarily to support our growth in operations and preparation to operate as a public company.

Collaboration and development charge represents the fair value of a fully vested warrant to purchase 9,756,160 shares of Series H convertible preferred stock issued to GLOBALFOUNDRIES, which was subsequently exercised in full on May 5, 2017.

Other Income (Expense)

	Year Ended December 31,		Change	
	2014	2015		$%
	(dollars in thousands)			
Other income (expense):				
Interest expense	$(2,164)	$(3,321)	$(1,157)	53%
Change in fair value of convertible preferred stock warrant liability	(15)	1,591	1,606	*
Other income, net	12	5	(7)	*
Total other income (expense)	$(2,167)	$(1,725)	$442	(20)

* Percentage change not meaningful

Other income (expense) decreased $0.4 million for the year ended December 31, 2015 compared to the year ended December 31, 2014, primarily as a result of a $1.6 million change in fair value of the convertible preferred stock warrant liability, partially offset by an increase of $1.2 million in interest expense relating to our outstanding long-term debt and borrowings under our line of credit.

We will continue to record adjustments to the fair value of these warrants at each balance sheet date until the earlier of the exercise of the warrants or the completion of a liquidation event, including the completion of this offering, at which time, the liability will be reclassified to stockholders' equity (deficit) and will no longer be subject to fair value accounting.

Income Tax Expense

	Year Ended December 31,		Change	
	2014	2015		$%
	(dollars in thousands)			
Income tax expense	$56	$200	$144	257%

Income tax expense increased $0.1 million for the year ended December 31, 2015 compared to the year ended December 31, 2014, primarily due to an increase in foreign income tax and U.S. federal income tax related to alternative minimum tax. Our consolidated effective tax rate for the year ended December 31, 2015 was (2)%, which represents an approximate decrease of 2% compared to the year ended December 31, 2014. The consolidated effective tax rate for the year ended December 31, 2015 differed from the U.S. statutory rate primarily as a result of changes in the valuation allowance for deferred tax assets.

Quarterly Results of Operations

The following tables set forth selected unaudited quarterly consolidated statements of operations data for each of the nine quarters in the period ended June 30, 2017, as well as the percentage that each line item represents of revenue for each quarter. The information for each of these quarters has been prepared on the same basis as the audited annual consolidated financial statements included elsewhere in this prospectus and, in the opinion of management, includes all adjustments of a normal, recurring nature that are necessary for the fair presentation of the results of operations for these periods in accordance with generally accepted accounting principles in the United States. This data should be read in conjunction with our audited consolidated financial statements and related notes included elsewhere in this prospectus. These quarterly operating results are not necessarily indicative of operating results to be expected for the full fiscal year or any future period.

	Three Months Ended								
	June 30, 2015	Sep. 30, 2015	Dec. 31, 2015	Mar. 31, 2016	June 30, 2016	Sep. 30, 2016	Dec. 31, 2016	Mar. 31, 2017	June 30, 2017
	(dollars in thousands)								
Quarterly results of operations									
Revenue	$19,539	$25,463	$24,280	$19,562	$21,812	$22,534	$22,767	$23,643	$25,164
Cost of revenue	10,337	13,496	10,501	7,909	8,274	9,127	8,754	10,047	10,912
Gross profit	9,202	11,967	13,779	11,653	13,538	13,407	14,013	13,596	14,252
Operating expenses:									
Research and development	7,516	8,377	5,831	8,183	9,118	9,321	9,931	10,407	10,537
Sales and marketing	916	1,013	1,168	1,389	1,484	1,344	1,130	1,634	1,822
General and administrative	1,427	1,474	2,335	1,718	2,078	1,891	1,437	2,227	2,248
Collaboration and development charge	–	–	–	–	–	–	–	–	–
Total operating expenses	9,859	10,864	9,334	11,290	12,680	12,556	12,498	14,268	14,607

Income (loss) from operations	(657)	1,103	4,445	363	858	851	1,515	(672)	(355)
Other income (expense):									
Interest expense	(806)	(794)	(838)	(861)	(1,010)	(779)	(684)	(559)	(457)
Change in fair value of convertible preferred stock warrant liability	(90)	1,857	(144)	—	78	—	(622)	(660)	(1,040)
Other income, net	10	(6)	(7)	7	(4)	(6)	17	17	11
Total other income (expense)	(886)	1,057	(989)	(854)	(936)	(785)	(1,289)	(1,202)	(1,486)
Income (loss) before income tax expense	(1,543)	2,160	3,456	(491)	(78)	66	226	(1,874)	(1,841)
Provision for (benefit from) Income taxes	29	25	119	59	47	(22)	84	151	(509)
Net income (loss) attributable to common stockholders and comprehensive loss	$(1,572)	$2,135	$3,337	$(550)	$(125)	$88	$142	$(2,025)	$(1,332)

	Three Months Ended								
	June 30, 2015	**Sep. 30, 2015**	**Dec. 31, 2015**	**Mar. 31, 2016**	**June 30, 2016**	**Sep. 30, 2016**	**Dec. 31, 2016**	**Mar. 31, 2017**	**June 30, 2017**
Quarterly results of operations									
Revenue	100%	100%	100%	100%	100%	100%	100%	100%	100%
Cost of revenue	53	53	43	40	38	41	38	42	43
Gross profit	47	47	57	60	62	59	62	58	57
Operating expenses:									
Research and development	38	33	24	43	41	42	44	44	42
Sales and marketing	5	4	5	7	7	6	5	7	7
General and administrative	7	6	10	9	10	8	6	10	9
Collaboration and development charge	—	—	—	—	—	—	—	—	—
Total operating expenses	50	43	39	59	58	56	55	61	58
Income (loss) from operations	(3)	4	18	1	4	3	7	(3)	(1)
Other income (expense):									
Interest expense	(4)	(3)	(3)	(4)	(5)	(3)	(3)	(2)	(2)
Change in fair value of convertible preferred stock warrant liability	(1)	7	(1)	—	—	—	(3)	(3)	(4)
Other income, net	—	—	—	—	—	—	—	—	—
Total other income (expense)	(5)	4	(4)	(4)	(5)	(3)	(6)	(5)	(6)

Income (loss) before income tax expense	(8)	8	14	(3)	(1)	—	1	(8)	(7)
Provision for (benefit from) Income taxes	—	—	—	—	—	—	—	1	(2)
Net income (loss) attributable to common stockholders and comprehensive loss	(8)%	8%	14%	(3)%	(1)%	—%	1%	(9)%	(5)%

Quarterly Revenue Trends

Our quarterly revenue increased for all quarters presented in 2015 and 2016, with the exception of the fourth quarter of 2015 and the first quarter of 2016. The overall increase in the third quarter of 2015 was primarily due to an increase in unit volumes sold to the data center market. The modest decrease in revenue in the fourth quarter of 2015 and in the first quarter of 2016 was primarily the result of a decrease in unit volumes to the data center market, partially offset by a higher unit volume sold to the enterprise infrastructure market. The increase in higher unit volumes for the enterprise infrastructure market continued in the second quarter of 2016 which accounted for $4.4 million additional revenue, partially offset by $2.1 million decline in the data center market revenue. The slight increase in revenue in the third and fourth quarter of 2016 was attributable to $2.2 million and $2.4 million, respectively, of higher data center market revenue due to higher ASPs and higher unit volumes, partially offset by $1.5 million and $2.1 million declines, respectively, in our enterprise infrastructure market revenue due to lower unit volume. The increase in revenue in the first quarter of 2017 was primarily attributable to $3.3 million of higher enterprise infrastructure market revenue due to higher unit volumes and $0.2 million of higher access market revenue due to higher unit volumes and ASPs, offset partially by a $2.6 million decline in our data center market revenue due to lower unit volumes and ASPs. The increase of $1.5 million in revenue in the second quarter of 2017 was primarily attributable to $1.3 million of higher data center market revenue due to higher unit volumes as customer demand fluctuated, and $0.3 million of higher enterprise infrastructure market revenue due to higher unit volumes offset by lower ASPs as volume production increased. Due to the introduction of our AQrate products to the enterprise infrastructure and access markets, we anticipate that revenue from these markets will fluctuate quarter to quarter as our customers establish better forecasts of their end customers' demand but revenue from these markets will grow at a greater rate than revenue from the data center market over the next two years.

Quarterly Cost of Revenue and Gross Profit and Gross Margin Trends

Increases in gross margin are primarily due to yield improvement and cost reductions from our supply chain as the result of higher production volumes and fluctuations in ASPs. Our quarterly gross margins ranged from a low of 47% in the second quarter of 2015 to 62% in the second and fourth quarters of 2016. Gross margin generally increased sequentially in 2015, primarily due to an increase in revenue from our data center market as described above. Gross margin increased for the first and second quarters of 2016 primarily due to yield improvement and cost reductions from our supply chain. For the third quarter of 2016, the decrease is due to $0.8 million of deferred revenue recognized in the second quarter which was non-recurring. Gross margin increased in the fourth quarter of 2016 primarily due to the sale of previously written off inventory. For the first quarter of 2017, the gross margin decrease is due to revenue and ASP decline in our data center market. For the second quarter of 2017, gross margin increased primarily due to an increase in revenue from our data center market as described above.

Quarterly Operating Expense Trends

Total operating expenses, excluding the collaboration and development charge and product development fees received from our customers, increased from $9.9 million to $12.7 million from the second quarter of 2015 to the second quarter in 2016 and remained at approximately $12.6 million for both third and fourth quarters of 2016. Our total operating expenses, excluding the collaboration and development charge and product development fees received from our customers, increased sequentially for all quarters in 2015 and 2016 and the first and second quarter of 2017 with the exception of the third and fourth quarters of 2016, which remained principally unchanged from the prior quarter. The sequential increases were due primarily to increased personnel costs, prototype-related and consulting expenses to support our research and development efforts, growth in operations and costs to prepare to operate as a public company. The fourth quarter of 2015 had lower net research and development costs, primarily due to $2.2 million in product development fees received from our customers which is an offset to research and development expenses.

Research and development expenses fluctuated during the nine quarters ended June 30, 2017 but increased from the second quarter of 2015 to the second quarter of 2017, with the exception of the fourth quarter of 2015, due primarily to our increased headcount and the expansion of our international offices to support the development of our future products. The decrease in research and development expense in the fourth quarter of 2015 was the result of $2.7 million in decreased prototype-related expenses and $2.2 million in product development fees from our customers, partially offset by higher personnel costs. The research and development expense in the first quarter of 2016 included $0.5 million in product development fees from our customers which is an offset to research and development expenses.

Sales and marketing expenses ranged from $0.9 million to $1.8 million for the nine quarters ended June 30, 2017. With the exception of the third and fourth quarters of 2016, sales and marketing expenses increased each quarter since the second quarter of 2015 through the second quarter of 2016 primarily due to an increase in personnel-related costs associated with increased headcount and increased spending in marketing programs to drive future revenue growth. Sales and marketing expenses decreased in the third and fourth quarters of 2016, primarily due to the fluctuation on the timing and spending of marketing programs and lower third party commission. Sales and marketing expenses increased in the first and second quarter of 2017, primarily due to increased headcount to drive future revenue growth.

General and administrative expenses fluctuated during the nine quarters ended June 30, 2017. In 2015, general and administrative expenses increased sequentially from $1.4 million in the second quarter of 2015 to $2.3 million in the fourth quarter of 2015, primarily due to increased personnel costs and professional service fees associated with the preparation to operate as a public company. General and administrative expenses for 2016 fluctuated between quarters with $1.7 million in the first quarter of 2016, $2.1 million in the second quarter, $1.9 million in the third quarter, decreased to $1.4 million in the fourth quarter of 2016 and then increased to $2.2 million in both the first and second quarters of 2017. The fluctuations were primarily due to increased personnel costs and the timing in incurring professional service fees associated with tax advisory and preparation to operate as a public company.

Liquidity and Capital Resources

Since our inception, we have financed our operations primarily through cash generated from product sales, as well as proceeds from our convertible preferred stock and debt financings. As of June 30, 2017, we had cash and cash equivalents of $17.4 million. In March and July 2015, we issued and sold an aggregate of 25,848,278 shares of our Series H convertible preferred stock for net proceeds of $37.0 million. Since our inception through June 30, 2017, we have sold an aggregate of 208,004,878 shares of our convertible preferred stock for aggregate net proceeds of $199.5 million. Our principal use of cash is to fund our operations to support our growth.

We believe that our existing cash and cash equivalents, our expected cash flows from product sales, and funds available for borrowing under our credit facilities will be sufficient to meet our cash needs for at least the next 12 months. Over the longer term, our future capital requirements will depend on many factors, including our growth rate, the timing and extent of our sales and marketing and research and development expenditures, and the continuing market acceptance of our solutions. In the event that we need to borrow funds or issue additional equity, we cannot assure you that any such additional financing will be available on terms acceptable to us, if at all. In addition, any future borrowings may result in additional restrictions on our business and any issuance of additional equity would result in dilution to investors. If we are unable to raise additional capital when we need it, it would harm our business, results of operations and financial condition.

Cash Flows

The following table summarizes our cash flows for the periods indicated:

	Year Ended December 31,			Six Months Ended March 31,	
	2014	2015	2016	2016	2017
	(in thousands)				
Net cash provided by (used in) operating activities	$(23,978)	$(11,512)	$12,138	$3,139	$(8,755)
Net cash used in investing activities	(1,299)	(4,174)	(8,431)	(1,673)	(2,775)
Net cash provided by (used in) financing activities	27,678	42,920	(9,104)	(3,696)	6
Net increase (decrease) in cash and cash equivalents	$2,401	$27,234	$(5,397)	$(2,230)	$(11,524)

Operating Activities We have historically used cash in operating activities due to our net losses, adjusted for changes in our operating assets and liabilities, particularly from accounts receivable, inventories, prepaid expenses and other assets, accounts payable and accrued expenses, deferred revenue and non-cash expense items such as depreciation and amortization, stock-based compensation expense, issuance of convertible preferred stock warrants and the change in fair value of our convertible preferred stock warrant liability and amortization of our debt discount.

For the six months ended June 30, 2017, cash used in operating activities was approximately $8.8 million. The cash used in operating activities was primarily due to $10.2 million in net change in operating assets and liabilities and a net loss of $3.4 million, offset by non-cash expenses of $4.8 million.

For the year ended December 31, 2016, cash provided by operating activities was approximately $12.1 million. The cash provided by operating activities was primarily the result of decreased inventories of $9.6 million as product revenue increased, non-cash items totaling $5.4 million, offset by other changes in operating assets and liabilities of $0.4 million, net loss of $0.4 million, and decrease in deferred

revenue of $2.1 million primarily from the recognition of previously recorded deferred revenue related to a significant agreement with Intel.

For the year ended December 31, 2015, we used approximately $11.5 million of cash in operating activities. The cash used in operating activities was primarily the result of increased inventories of $12.7 million to support our future product sales, our net loss of $10.0 million offset by non-cash items totaling $14.4 million, an increase in accounts receivable of $5.2 million due to increased product sales during 2015, and a decrease in deferred revenue of $2.7 million primarily from the recognition of previously deferred revenue related to a significant agreement with Intel. The cash used in operating activities was partially offset by increases in accounts payable and accrued expenses of $3.4 million primarily due to higher compensation and benefit accruals resulting from increased headcount and increased professional services costs due to preparing to operate as a public company, and a decrease in prepaid expenses and other assets of $1.3 million. Non-cash items included $12.1 million for the issuance of convertible preferred stock warrants primarily related to a collaboration and development charge, $1.9 million of depreciation and amortization, $1.2 million amortization of debt discount and non-cash interest expense, and $0.8 million of stock compensation expense, offset by a $1.6 million revaluation of our convertible preferred stock warrants.

For the year ended December 31, 2014, we used approximately $24.0 million of cash in operating activities. The cash used in operating activities was primarily the result of our net loss of $27.8 million offset by non-cash items totaling $3.0 million, an increase in prepaid expenses and other assets of $4.4 million primarily due to the prepayment of processed wafer inventory, a decrease in deferred revenue of $3.1 million primarily due to the recognition of previously deferred revenue, and a $0.1 million increase in accounts receivable. The cash used in operating activities was partially offset by a decrease of $6.8 million in inventory due to inventory purchased in 2013 in advance of 2014 anticipated product demand, and increases in accounts payable and accrued expenses of $1.5 million. Non-cash items consisted of $1.9 million of depreciation and amortization, $0.9 million of stock-based compensation expense and $0.2 million of amortization of debt discount and non-cash interest expense.

Investing Activities Our investing activities consist of capital expenditures for property and equipment purchases and IP licenses. Our capital expenditures for property and equipment have primarily been for general business purposes, including machinery and equipment, leasehold improvements, software and computer equipment used internally, and production masks to manufacture our products.

For the six months ended June 30, 2017, we used approximately $2.8 million in investing activities, consisted of $1.9 million for the purchases of property and equipment for general business purposes and $0.9 million for the purchases of short-term investments.

For the year ended December 31, 2016 we used approximately $8.4 million in investing activities for the purchase of production masks, IP licenses and other property and equipment for general business purposes.

For the year ended December 31, 2015 we used approximately $4.2 million in investing activities for the purchase of production masks and other property and equipment for general business purposes.

For the year ended December 31, 2014, we used approximately $1.3 million in investing activities primarily for the purchase of property and equipment for general business purposes.

Financing Activities Cash generated by financing activities includes proceeds from borrowings under our credit facilities, proceeds from our issuance of common stock following employee stock option exercises and issuance of convertible preferred stock. Cash used in financing activities includes repayment of debt under our credit facilities and payment of costs related to this offering.

For the six months ended June 30, 2017, we generated $6,000 of cash in financing activities, consisting of proceeds of $5.0 million from a draw down on our line of credit and $0.8 million in proceeds from the exercise of employee stock options and preferred stock warrants, offset by repayments of our borrowings of $5.1 million and payments of $0.6 million on costs related to this offering.

For the year ended December 31, 2016, we used $9.1 million of cash in financing activities, consisting of $11.6 million used in repayments of our line of credit and borrowings and payments of $2.4 million on costs related to this offering, partially offset by $4.9 million proceeds from the exercise of employee stock options and preferred stock warrants.

For the year ended December 31, 2015, we generated $43.0 million of cash from financing activities, consisting of $37.0 million of cash from the issuance of our Series H convertible preferred stock, net of issuance costs, $20.2 million from our line of credit and $1.4 million from the issuance of common stock, primarily related to the exercise of employee stock options; offset by the repayment of $15.2 million on our line of credit, $0.2 million of debt issuance costs and $0.2 million of costs related to this offering. During the year ended December 31, 2015, our outstanding balance on our line of credit ranged from $0 to $10.3 million.

For the year ended December 31, 2014, we generated $27.7 million of cash from financing activities, consisting of $19.9 million from the issuance of our Series G convertible preferred stock, net of issuance costs, $8.2 million from our loan with Pinnacle Ventures, L.L.C., or Pinnacle, net of issuance costs, $3.0 million from our line of credit with Silicon Valley Bank and $0.3 million from the issuance of common

stock, primarily related to the exercise of employee stock options; offset by a $3.9 million repayment in full of our line of credit with Silicon Valley Bank. During the year ended December 31, 2014, our line of credit balance with Silicon Valley Bank ranged from $0 to $3.0 million.

Debt Obligations

The following table summarizes our debt obligations as of December 31, 2014, 2015 and 2016 and June 30, 2017:

	As of December 31,			As of June 30,
	2014	2015	2016	2017
	(in thousands)			
Term loans	$23,800	$23,800	$17,241	$12,070
Final payment liability	41	641	1,192	1,376
Total term loans	23,841	24,441	18,433	13,446
Unamortized debt discount	(889)	(533)	(204)	(95)
Less: unamortized debt discount in other current assets	356	—	—	—
Balance term loans	23,308	23,908	18,229	13,351
Bank borrowings—line of credit	—	5,001	—	5,000
Total debt	23,308	28,909	18,229	18,351
Less: long-term debt, current portion and bank borrowings—line of credit	—	(12,455)	(11,238)	(17,377)
Long-term debt	$23,308	$16,454	$6,991	$974

Pinnacle Loan and Security Agreement. In April 2013, we entered into a Loan and Security Agreement with Pinnacle for an aggregate principal amount of $15.0 million. The interest rate on this loan was the greater of the prime rate plus 925 basis points, or 12.5% per annum. At December 31, 2014, the interest rate on this loan was 12.5%. We were required to make interest-only payments for the first 24 months of the loan starting in April 2013 and thereafter to make 18 equal monthly payments from April 2015 until maturity in October 2016. In connection with this loan, we issued a warrant to Pinnacle to purchase up to 646,551 shares of our Series F convertible preferred stock at an exercise price of $0.928 per share. This loan also provided a right to convert a portion of the outstanding principal of the loan into shares of our Series F convertible preferred stock, which right expired unexercised on June 30, 2014.

On December 16, 2014, we entered into an Amended and Restated Loan and Security Agreement with Pinnacle pursuant to which we borrowed an additional $8.8 million and modified the terms of the existing loan of $15.0 million. As of December 31, 2015, our aggregate principal amount outstanding under the amended loan was $23.8 million. The interest rate on this loan, effective January 1, 2015, is the greater of the prime rate plus 550 basis points, or 8.75% per annum. As of December 31, 2016, the interest rate on this loan was 9.25%. As of June 30, 2017, the interest rate on this loan was 9.50% as prime rate increased. Monthly principal payments on this loan begin in May 2016, and an additional final payment of $1.5 million is due upon the earliest to occur of the maturity date of July 1, 2018 or the prepayment of all outstanding principal and accrued and unpaid interest. In connection with this loan, we issued a fully-vested warrant to Pinnacle to purchase up to 640,129 shares of our Series G convertible preferred stock at an exercise price of $1.4314298 per share. This loan with Pinnacle is subordinated to the loan with Hercules Technology Growth Capital, or Hercules Technology, pursuant to a subordination agreement.

We intend to prepay in full the outstanding amounts under this term loan with a portion of the net proceeds from this offering. See the section titled “Use of Proceeds.”

Hercules Technology Growth Capital Loan and Security Agreement. In January 2015, we entered into a Loan and Security Agreement with Hercules Technology for an $11.5 million revolving line of credit. The line of credit is based upon a percentage of eligible receivables and eligible customer purchase orders. The line of credit bears a variable rate of interest based upon the prime rate and changes in our borrowing base eligibility and whether the borrowing base is based on eligible accounts receivables or eligible purchase orders or both. At December 31, 2016, we had a line of credit of $11.5 million available to be borrowed at a rate of 7.35% as the $5.0 million outstanding at December 31, 2015 was repaid in full on January 5, 2016. As of June 30, 2017, the balance outstanding under this line of credit was $5.0 million. The line of credit matures on February 1, 2018. An end-of-term charge of $0.3 million is owed upon the earliest to occur of the maturity date, the date of prepayment of the outstanding secured obligations or the date that the secured obligations become due and payable. In connection with this loan, we issued a warrant to Hercules Technology to purchase up to 196,831 shares of our convertible preferred stock at an exercise price of $1.4314298 per share. At the election of the holder, these warrants may be exercised for Series G or Series H convertible preferred stock.

Contractual Obligations and Commitments

Set forth below is information concerning our contractual commitments and obligations as of December 31, 2016:

	Payments due by period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
	(in thousands)				
Debt obligations	$17,242	$10,595	6,647	$—	$—
Operating leases	1,624	982	642	—	—
Purchase obligations	11,431	9,433	1,998	—	—
Total	$30,297	$21,010	$9,287	$—	$—

As of December 31, 2016, our operating lease obligations are for our U.S. headquarters and our international research facilities that expire at various dates through February 2020. Purchase obligations consist of non-cancelable agreements and purchase orders for goods and services. See Note 9 to our audited consolidated financial statements included elsewhere in this prospectus.

Off-Balance Sheet Arrangements

During the periods presented, we did not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Critical Accounting Policies and Estimates

Our audited consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States, or GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, expenses and related disclosures. We base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances. We evaluate our estimates and assumptions on an ongoing basis. Actual results may differ from these estimates. To the extent that there are material differences between these estimates and our actual results, our future financial statements will be affected.

The critical accounting policies requiring estimates, assumptions and judgments that we believe have the most significant impact on our audited consolidated financial statements are described below.

Revenue Recognition

We sell our products direct to our customers and to our customers' manufacturing subcontractors, and do not currently have a significant amount of revenue sold to distributors during the sales process. We offer a limited number of customer rebates and accrue an estimate of such rebates at the time revenue is recognized. Such rebates were not material in any of the periods presented, and the differences between the actual amount of such rebates and our estimates also were not material. Revenue is recognized when delivery has occurred, persuasive evidence of an arrangement exists, the price is fixed or determinable, and collection of the resulting receivable is reasonably assured. Delivery is considered to have occurred when title and risk of loss have passed to the customer. There are no circumstances where revenue is recognized prior to delivery. Customer purchase orders are generally used to determine the existence of an arrangement. We evaluate whether the price is fixed or determinable based on the payment terms associated with the transaction. With respect to collectability, we perform credit checks for new customers and perform ongoing evaluations of our existing customers' financial condition. We defer revenue if any revenue recognition criteria have not been met.

Inventories

Inventories consist of processed wafers, work-in-process and finished goods and are stated at the lower of standard cost or net realizable value. Standard costs approximate actual costs and are based on a first-in, first-out basis. We perform detailed reviews of the net realizable value of inventories, both on hand as well as for inventories that we are committed to purchase and write down the inventory value for estimated deterioration, excess and obsolete and other factors based on management's assessment of future demand and market conditions. Once written down, inventory write-downs are not reversed until the inventory is sold or scrapped.

Convertible Preferred Stock Warrant Liability

We account for our outstanding convertible preferred stock warrants as derivative liabilities as the terms of the warrants are not fixed due to potential adjustments in the exercise price and the number of shares upon an equity financing at a lower price. The convertible preferred stock warrants are initially recorded at fair value when issued, with gains and losses arising from changes in fair value recognized

in other income (expense) in the consolidated statements of operations and comprehensive loss at each period end while such instruments are outstanding and classified as liabilities. Upon the earlier of the exercise of the warrants or the completion of a liquidation event, including the completion of this offering, at which time, the warrants will convert to warrants to purchase common stock, the liability will be reclassified to convertible preferred stock or stockholders' equity (deficit), and will no longer be subject to fair value accounting. The fair values of the convertible preferred stock warrants issued in connection with debt agreements are recorded as debt discounts and are amortized as non-cash interest expense in the consolidated statement of operations over the expected repayment period of the debt agreements. The fair value of the convertible preferred stock warrants issued in connection with a letter agreement to collaborate on the development of products with GLOBALFOUNDRIES was recorded as an operating expense at the date of issuance.

The assumptions used to determine the fair value of convertible preferred stock warrants were as follows:

	Year Ended December 31,			Six Months Ended June 30,
	2014	2015	2016	2017
Valuation method	Monte Carlo Simulation	Monte Carlo Simulation	Black-Scholes Pricing Model	Black-Scholes Pricing Model
Risk-free interest rate	0.43% - 2.22%	0.10% - 2.21%	0.39% - 2.25%	0.89% - 2.24%
Expected term	1.0 - 9.7 yrs	0.2 - 9.0 yrs	0.3 - 9.0 yrs	0.8 - 7.9 yrs
Expected dividends	0%	0%	0%	0%
Volatility	35% - 50%	35% - 50%	25% - 50%	25% - 35%
Fair value of preferred stock:				
Convertible preferred Series A	$0.48	$0.37	$0.44	$0.78
Convertible preferred Series B	0.77	0.62	0.73	1.11
Convertible preferred Series C-1	0.77	0.62	0.73	1.11
Convertible preferred Series D	0.83	0.67	0.78	1.19
Convertible preferred Series E	0.81	0.69	0.77	1.03
Convertible preferred Series F	0.95	0.84	0.91	1.11
Convertible preferred Series G	1.43	1.36	1.40	1.49
Convertible preferred Series H	—	1.42	1.43	1.50

Stock-Based Compensation

Compensation expense related to stock-based transactions is measured and recognized in the financial statements at fair value. Stock-based compensation expense is measured at the grant date based on the fair value of the equity award and is recognized as expense over the requisite service period, which is generally the vesting period. We estimate the fair value of each equity award on the date of grant using the Black-Scholes option-pricing model and recognize the related stock-based compensation expense on the straight-line method. Determining the fair value of stock-based awards at the grant date requires judgment, including estimating the expected volatility, expected term, risk-free interest rate, and expected dividends.

We account for equity instruments issued to non-employees based on the fair value of the awards determined using the Black-Scholes option pricing model. The fair value of such instruments is recognized as an expense over the period in which the related services are received.

We estimated the fair value of stock-based awards granted using the following valuation assumptions:

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
Risk-free interest rate	1.66% - 1.98%	1.51% - 2.32%	1.46% - 2.43%	1.46% - 1.88%	1.94% - 2.40%
Expected term	5.5 - 10 yrs	5.3 - 10 yrs	6.1 - 10 yrs	6.1 - 10 yrs	6.1 - 9.6 yrs
Expected dividends	0%	0%	0%	0%	0%
Volatility	44%	41% - 42%	30% - 34%	34%	27% - 30%

Fair Value of Common Stock The fair value of the shares of common stock underlying the stock options has historically been the responsibility of and determined by our board of directors. Because there has been no public market for our common stock, the board of directors determined fair value of common stock at the time of grant of the option by considering a number of objective and subjective factors including independent contemporaneous third-party valuations of our common stock, our operating and financial performance, the lack of liquidity of our capital stock and general and industry specific economic outlooks, amongst other factors.

Expected Term

The expected term of stock options represents the weighted-average period the stock options are expected to be outstanding. For option grants that are considered to be "plain vanilla", we have opted to use the simplified method for estimating the expected term, which calculates the expected term as the average of the time-to-vesting and the contractual life of the options.

Expected Volatility

The expected stock price volatility assumption was determined by examining the historical volatilities of a group of industry peers, as we do not have any trading history for our common stock. We will continue to analyze the historical stock price volatility and expected term assumptions as more historical data for our common stock becomes available.

Risk-Free Interest Rate The risk-free rate assumption was based on U.S. Treasury instruments with terms that were consistent with the expected term of the option grants.

Expected Dividends

The expected dividend yield was 0% as we have not paid, and do not expect to pay, cash dividends in the foreseeable future.

The following table summarizes the effects of stock-based compensation on our consolidated statements of operations and comprehensive loss for the years ended December 31, 2014, 2015 and 2016 and the six months ended June 30, 2016 and 2017.

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
	(in thousands)				
Cost of revenue	$10	$19	$31	$15	$14
Research and development	382	373	489	206	293
Sales and marketing	36	71	95	46	64
General and administrative	430	329	324	182	178
Total	$858	$792	$939	$449	$549

As of June 30, 2017, we had approximately $5.5 million of unrecognized stock-based compensation expense which we expect to recognize over a weighted-average period of approximately 3.5 years.

The intrinsic value of all outstanding options as of June 30, 2017 was $21.2 million based on the estimated fair market value of our common stock of $9.90 per share.

Common Stock Valuations Our board of directors determined the fair value of the common stock underlying our stock options. The board of directors granted options to be exercisable at a price per share not less than the per share fair value of our common stock underlying those options on each grant date.

The common stock valuations were determined in accordance with the guidelines outlined in the American Institute of Certified Public Accountants Practice Aid, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. The assumptions we use in the valuation model are based on future expectations combined with management judgment. Our board of directors is comprised of a majority of non-employee directors who we believe have the relevant experience and expertise to determine a fair value of our common stock on each respective grant date. In the absence of a public trading market for our common stock, our board of directors, with input from management, exercised significant judgment and considered numerous objective and subjective factors to determine the common stock's fair value as of the date of each option grant, including the following factors:

- valuations performed by an unrelated third-party specialist;
- the prices, rights, preferences and privileges of our preferred stock relative to the common stock;
- our operating and financial performance;

- current business conditions and projections;
- the market performance of comparable publicly traded companies;
- our history and the introduction of new products and services;
- our stage of development;
- the hiring of key personnel;
- the likelihood of achieving a liquidity event for the shares of common stock underlying these stock options, such as an initial public offering or sale of the company, given prevailing market conditions;
- any adjustment necessary to recognize a lack of marketability for our common stock; and
- U.S. and global capital market conditions.

At each grant date, our board of directors reviewed any recent events and their potential impact on the estimated fair value per share of the common stock. For grants of stock awards made on dates for which there was no valuation performed by an independent valuation specialist, our board of directors determined the fair value of our common stock on the date of grant based upon the immediately preceding valuation and other pertinent information available to it at the time of grant.

Our common stock valuation models have historically utilized a market approach, which bases the valuation of our common stock on multiples of revenue, operating income, net income and similar metrics of publicly traded companies we believe are similar to us in terms of size, product market, liquidity, financial leverage, revenue, profitability, growth and other factors. We also examine transactions in the same or similar assets at the measurement date. These transactions can include venture investments in private firms, or stock market trading prices of similar publicly traded companies.

We also allocate value to each class of stock using an Option Pricing Model, or OPM, and Probability Weighted Expected Return Method, or PWERM. The OPM treats common stock and convertible preferred stock as call options on an enterprise value, with exercise prices based on the liquidation preference of our convertible preferred stock. The common stock is modeled as a call option with a claim on the enterprise at an exercise price equal to the remaining value immediately after our convertible preferred stock is liquidated. The OPM is appropriate to use when the range of possible future outcomes is difficult to predict and thus creates highly speculative forecasts. PWERM involves a forward-looking analysis of the possible future outcomes of the enterprise. This method is particularly useful when discrete future outcomes can be predicted at a relatively high confidence level with a probability distribution. Discrete future outcomes considered under the PWERM include an initial public offering, or IPO, as well as non-IPO market based outcomes. Determining the fair value of the enterprise using the PWERM requires us to develop assumptions and estimates for both the probability of an IPO liquidity event and non-IPO outcomes, as well as the values we expect those outcomes could yield. We apply significant judgment in developing these assumptions and estimates, primarily based upon the enterprise value we determined using the market approach, our knowledge of the business and our reasonable expectations of discrete outcomes occurring.

In determining the estimated fair value of our common stock, our board of directors also considered the fact that our stockholders could not freely trade our common stock in the public markets. Accordingly, we applied discounts to reflect the lack of marketability of our common stock based on the expected time to liquidity. The estimated fair value of our common stock at each grant date reflected a non-marketability discount partially based on the anticipated likelihood and timing of a future liquidity event.

The key subjective factors and assumptions used in our valuations primarily consisted of: (1) the selection of the appropriate market comparable transactions, (2) the selection of the appropriate comparable publicly traded companies, (3) the financial forecasts utilized to determine future cash balances and necessary capital requirements, (4) the probability and timing of the various possible liquidity events, (5) the estimated weighted-average cost of capital and (6) the discount for lack of marketability of our common stock.

Following the closing of this offering, the fair value of our common stock will be determined based on the closing price of our common stock on the NYSE on the grant date.

Income Taxes

Deferred tax liabilities and assets are recognized for the expected future tax consequences of temporary differences between the financial statements carrying amounts and the tax basis of assets and liabilities and net operating loss and tax credit carryforwards. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized.

A tax position can be recognized only if it is more likely than not to be sustained based solely on its technical merits as of the reporting date and then only in an amount more likely than not to be sustained upon review by the tax authorities. We consider many factors when evaluating and estimating its tax positions and tax benefits, which may require periodic adjustments and which may not accurately anticipate actual outcomes.

Recent Accounting Pronouncements

In May 2017, the Financial Accounting Standards Board, or the FASB issued ASU 2017-09, *Compensation-Stock Compensation (Topic 718): Scope of Modification Accounting*. It provides clarity and reduces both (1) diversity in practice and (2) cost and complexity when applying the guidance in *Topic 718, Compensation-Stock Compensation*, to a change to the terms or conditions of a share-based payment award. The amendments provide guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting. The guidance is effective for fiscal years beginning after December 15, 2017, and interim periods within those years and early adoption is permitted. We are currently evaluating the impact of adoption of this new standard on our consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*. The new guidance requires entities to recognize assets and liabilities for leases with terms of more than 12 months and additional disclosures to better understand the amount, timing and uncertainty of cash flows arising from leases. The guidance is effective for financial statements issued for fiscal years beginning after December 15, 2018. Early adoption is permitted. We are evaluating the impact of this new standard on our consolidated financial statements.

In August 2015, the FASB issued ASU 2016-08, *Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net)*, an update that deferred the effective date of the new guidance they previously issued in May 2014 related to the recognition and reporting of revenue that establishes a comprehensive new revenue recognition model designed to depict the transfer of goods or services to a customer in an amount that reflects the consideration the entity expects to receive in exchange for those goods or services. The guidance allows for the use of either the full or modified retrospective transition method. This new standard will be effective for us on January 1, 2018, although adoption as of the original effective date of January 1, 2017 is permitted. We intend to use the modified retrospective method and are evaluating the impact of this new standard on our consolidated financial statements and disclosure.

Adopted

In July 2015, the FASB issued ASU 2015-11, *Simplifying the Measurement of Inventory*, which requires entities to measure most inventory "at the lower of cost and net realizable value", thereby simplifying the current guidance under which an entity must measure inventory at the lower of cost or market (market in this context is defined as one of three different measures, one of which is net realizable value). This standard will be effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017. The adoption of this standard did not have a significant impact on our consolidated financial statements.

In March 2016, the FASB, issued ASU 2016-09, *Improvements to Employee Share-Based Payment Accounting*. This guidance affects entities that issue share-based payment awards to their employees. The guidance is designed to simplify several aspects of accounting for share-based payment award transactions which include: the income tax consequences, classification of awards as either equity or liabilities, classification on the statement of cash flows, and forfeiture rate calculations. The guidance is effective for us in the first quarter of fiscal 2017. The adoption of this standard did not have a material impact on our consolidated financial statements.

In August 2016, the FASB issued ASU 2016-15, *Classification of Certain Cash Receipts and Cash Payments (Topic 230)*, which provides guidance for eight specific cash flow issues with the objective of reducing the existing diversity in practice. ASU 2016-15 is effective retrospectively for annual reporting periods beginning after December 15, 2017, including interim periods within those annual reporting periods. We early adopted this guidance in 2016, and the adoption of this guidance did not result in any adjustments.

JOBS Act Transition Period

The Jumpstart Our Business Startups Act of 2012, or the JOBS Act, was enacted in April 2012. Section 107(b) of the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. Thus, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this extended transition period and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies.

Quantitative and Qualitative Disclosures about Market Risk

Concentration of Credit Risk

We are exposed to the credit risk of our customers. We had two end customers who each accounted for more than 10% of our revenue for the year ended December 31, 2014, and two end customers who accounted for more than 10% of our revenue for each of the years ended December 31, 2015 and 2016 and the six months ended June 30, 2016 and 2017. Our concentration of accounts receivable and revenue for the years ended December 31, 2014, 2015 and 2016 and the six months ended June 30, 2016 and 2017 was as follows:

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
Accounts Receivable:					
Customer A	56	55%	62%	49%	52%
Customer B	11	26	23	36	38
Customer C	*	10	*	*	*
Customer D	20	*	*	*	*

* Less than 10%

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
Revenue:					
Customer A	68	78	68	66	65
Customer B	*	13	21	24	27
Customer C	10	*	*	*	*

* Less than 10%

We market and sell our products worldwide and attribute revenue to the geography where product is shipped. The geographical distribution of our revenue, as a percentage of revenue was as follows:

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
Malaysia	54%	74%	69%	62%	65%
China	20	18	26	25	28
United States	18	5	1	4	1
Other	8	3	4	9	6
Total	100%	100%	100%	100%	100%

Foreign Currency Risk

Our results of operations and cash flows are subject to fluctuations due to changes in foreign currency exchange rates. All of our revenue is denominated in U.S. dollars. Our expenses are generally denominated in the currencies in which our operations are located, which is primarily in the United States and to a lesser extent in India, the Netherlands and Russia. Our results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates and may be adversely affected in the future due to changes in foreign exchange rates. The effect of a hypothetical 10% change in foreign currency exchanges rates applicable to our business would not have a material impact on our consolidated financial statements.

Interest Rate Risk

We had cash and cash equivalents of $28.9 million and $17.4 million as of December 31, 2016 and June 30, 2017, respectively, consisting of bank deposits, commercial paper, U.S. government securities, corporate bonds and money market funds. Such interest-earning instruments carry a degree of interest rate risk. To date, fluctuations in interest income have not been significant. As of June 30, 2017, we

had total outstanding debt of $13.4 million related to our term loan with Pinnacle and a line of credit of $5.0 million with Hercules.

We do not enter into investments for trading or speculative purposes and have not used any derivative financial instruments to manage our interest rate risk exposure. We have not been exposed to, nor do we anticipate being exposed to, material risks due to changes in interest rates. Our exposure to interest rates relates to the change in the amounts of interest we must pay on our borrowings to the extent they are subject to variable interest rates. Our debt instruments provide that we pay interest at the greater of (1) a prime rate plus a spread or (2) a specified fixed interest rate. As of June 30, 2017, none of our borrowings were accruing interest at the variable rate because the variable rates were below the specified fixed interest rate. The effect of a hypothetical 10% change in interest rates on the fair value of outstanding debt would not have a material impact on our consolidated financial statements. For more information on the structure of interest rates under our debt instruments, see "–Liquidity and Capital Resources–Debt Obligations" above.

Business

BUSINESS

`Overview`

We are a leader in the design, development and marketing of advanced high-speed communications integrated circuits, or ICs, for Ethernet connectivity in the data center, enterprise infrastructure and access markets. Our Ethernet solutions provide a critical interface between the high-speed analog signals transported over wired infrastructure and the digital information used in computing and networking equipment. Our products are designed to cost-effectively deliver leading-edge data speeds for use in the latest generation of communications infrastructure to alleviate network bandwidth bottlenecks caused by the exponential growth of global Internet Protocol, or IP, traffic. Many of our semiconductor solutions have established benchmarks in the industry in terms of performance, power consumption and density. Our innovative solutions enable our customers to differentiate their product offerings, position themselves to gain market share and drive the ongoing equipment infrastructure upgrade cycles in the data center, enterprise infrastructure and access markets.

Ethernet is a ubiquitous and evolving standard of network connectivity that is characterized by its reliability and backward compatibility, which enables easy upgrades and continuity of operation through upgrade cycles. One Gigabit Ethernet, or 1GbE, has been deployed as a mainstream wired connectivity standard for over a decade. However, 1GbE is increasingly insufficient to meet the bandwidth requirements that can accommodate the exponential growth of global IP traffic. As a result, the 1GbE infrastructure is currently undergoing an upgrade cycle that is driven by the need to alleviate bandwidth bottlenecks on the wired side of networking equipment, including the data center (servers and switches), the enterprise infrastructure (wireless access points, or APs, and switches), and the access (client connectivity for personal computers, or PCs, and carrier access) markets. Based on projections by Crehan Research, 650 Group, IDC and Dell'oro, we estimate that across these markets, over one billion Ethernet ports will ship in 2017 and growing to 1.2 billion ports in 2020, representing a substantial opportunity for upgrade of the Ethernet physical layer, or PHY. Historically, the transition to the next Ethernet generation has been led by the introduction of IC solutions that reliably and cost-effectively meet the new Ethernet standard. We believe that the current upgrade cycle will follow the same course. In addition, we believe another new opportunity for Ethernet is emerging in the automotive market, as a result of increased investment in the development of autonomous vehicles, or self-driving cars.

As the data rate of PHY devices continues to increase, the technical challenges of designing high-speed communications ICs require a significantly new architectural approach. In order to meet next-generation performance requirements with low power consumption and a small footprint, our differentiated architecture combines our two fundamental innovations: Mixed-Mode Signal Processing, or MMSP, which partitions signal processing across analog and digital domains, and Multi-Core Signal Processing, or MCSP, which incorporates multiple customized units to more efficiently process digital signals. We also implement patented techniques in Analog Front-End, or AFE, algorithms, power management and programmability in the design of our products. Our next-generation Ethernet solutions have been developed by one of the most innovative design teams in the semiconductor industry, with deep expertise across multiple disciplines that range from analog and mixed-mode design to digital signal processing and communication theory. We have leveraged the expertise of our design team to achieve technological breakthroughs and bring what we believe to be best-in-class semiconductor solutions to market, anticipating the future technological needs of our customers and helping them shape their product roadmaps. Our best-in-class semiconductor solutions provide the functionalities that meet customers' requirements, as well as the relevant Institute of Electrical and Electronics Engineers, or IEEE, standard. For example, in 2012 we created a novel technology that we call AQrate, which has since been adopted by the IEEE as the baseline for the IEEE 802.3bz standard that was ratified in September 2016 as the industry specifications for 2.5GBASE-T and 5GBASE-T products made by different manufacturers to be compatible with each other. This technology is currently being deployed in the enterprise infrastructure and access markets.

We are a fabless semiconductor company. We have shipped more than 10 million ports to customers across three semiconductor process generations, and are currently in mass production in 28nm process node. 28nm and other silicon process geometries, such as 40nm and 90nm, refer to the size of the process node in nanometers for a particular semiconductor manufacturing process. Our target markets include ASICs and ASSPs for Data Processing and Communications across the following applications: Enterprise LAN and Wireless LAN Infrastructure; Server, 1/2/4+ CPU socket; Storage Network Infrastructure and DAS/FAS Storage; PC, desktop-based; Service Provider Routers and Switches. We estimate that our total addressable market opportunity across these target markets is $11.5 billion in 2017.

We estimate that our serviceable addressable market opportunity across our application-specific standard product, or ASSP, and application-specific integrated circuit, or ASIC, applications is approximately 100 million ports in 2020, based on projections by Crehan Research, 650 Group, IDC and Dell'oro, which we estimate would be equivalent to $800 million. Our end customers include Aruba (acquired by Hewlett-Packard Enterprise in 2015), Brocade, Cisco, Dell, Hewlett-Packard Enterprise, Huawei, IBM, Intel, Juniper, Oracle and Ruckus (acquired by Brocade in 2016). For the years ended December 31, 2014, 2015 and 2016 and the six months ended June 30, 2017, sales to Intel accounted for approximately 68%, 78%, 68% and 65% of our revenue, respectively. For the years ended December 31, 2014, 2015 and 2016, our revenue was $24.5 million, $80.8 million and $86.7 million, respectively, our net loss attributable to common stockholders was $27.8 million, $10.0 million and $0.4 million, respectively, and our non-GAAP net income (loss) was $(26.8) million, $1.3 million and $1.1 million, respectively. For the six months ended June 30, 2016 and 2017, our revenue was $41.4 million and $48.8 million, respectively, our net loss attributable to common stockholders was $0.7 million and $3.4 million, respectively, and our non-GAAP net loss was $0.3 million and $1.1 million, respectively. See the section titled "Prospectus Summary—Summary Consolidated Financial Data—Non-GAAP Financial Measures" above for additional information regarding non-GAAP financial measures and a reconciliation of non-GAAP financial measures to the most directly comparable GAAP financial measures.

Industry Background

Exponential Growth of Global IP Traffic

Demands on global networking infrastructure are being driven by the exponential growth of data from video, social networking and advanced collaboration applications. The Cisco Visual Networking Index estimates that global IP traffic will grow at a compound annual growth rate, or CAGR, of 22% from 2015 to 2020. Globally, mobile data traffic is expected to increase at a CAGR of 53% from 2015 to 2020. The advent of the Internet of Things, or IoT, will also increase pressure on the network infrastructure as a wide variety of electronic devices become connected to the Internet in order to collect and exchange information. IDC estimates that by 2020, 29.5 billion objects will be connected to the IoT, up from 10.3 billion objects in 2014.

Transition to 10 Gigabit Ethernet

Since its inception more than 40 years ago, Ethernet has grown into a global, widely-deployed communications protocol. More specifically, copper Ethernet cables and the associated Ethernet connector, have permeated the vast majority of Internet networks, including data center, enterprise, campus, small and medium-sized business, small-office and home-office (SOHO) and the home. We believe that each transition to higher speeds has enabled the semiconductor company that has been at the forefront of the technological transformation in each upgrade cycle to significantly scale its operations: from National Semiconductor Corporation in the early 1990s, with the transition to 10 Megabit Ethernet, or 10MbE; to Broadcom Corporation in the mid-1990s, with the transition to 100MbE; and to Marvell Semiconductor, Inc. in the early 2000s, with the transition to 1GbE. We believe a similar opportunity now exists with the transition to 10GbE and beyond in the data centers, enterprise infrastructure, access and automotive markets.

In the early 2000s, the transition from 100MbE to 1GbE was driven by the availability of the technology as a local-area network, or LAN, on motherboard, or LOM, solution for PC applications. A LOM solution allowed every PC manufacturer to offer a 1GbE port on desktops and laptops, which led to a very rapid transition to 1GbE in the entire networking ecosystem. Today, the 1GbE technology has reached broader markets beyond the traditional networking industry, extending into a wide variety of new applications and markets, including home and automotive networking, security camera, signage and smart television connectivity, and high-density wireless environments, such as stadiums and airports. Gigabit Ethernet has now been deployed as a mainstream wired connectivity standard for over a decade and is currently undergoing an upgrade cycle that is driven by the need to alleviate bandwidth bottlenecks on the wired side of networking equipment, including the data center and the enterprise.

Ethernet Connectivity Solutions

In order to connect Ethernet networking equipment, such as servers, switches, storage appliances or routers, network engineers have generally used either optical-based glass or plastic fiber cabling or electrical-based copper cabling. Optical interconnect solutions involve the combination of electronics with optical components, such as optical transmitters, optical receivers, optical couplings, packaging and optical fibers. As a result, optical solutions generally have higher relative cost of materials compared to electrical interconnect solutions. Due to the extremely low absorption loss of optical fibers, optical signals can be sent through fiber over very long distances, which are typically hundreds of kilometers or more, making the higher cost of optical solutions a less significant concern for long-reach

interconnects. However, for shorter distances within data centers, which are typically less than 100 meters, optical interconnect solutions can be cost-prohibitive. As a result, optical solutions are typically only used in data centers when a comparable electrical solution has not been developed or the distance is too great for the electrical solution to cover.

Electrical interconnect solutions involve the combination of only a silicon-based IC, a connector and a copper cable. The most prevalent copper interconnect is based on twisted-pair copper cables, also commonly known as Ethernet cables. These cables are relatively inexpensive, but present a number of technical challenges due to significant impairments suffered by the signal as it is transmitted, such as attenuation, crosstalk and echo. As transmission speeds continue to increase to keep up with the exponential growth of global IP traffic, the amount of processing required to be performed in the silicon layer to address these transmission impairments increases correspondingly, leading to greater design complexity and higher power consumption. In recent years, advancements in lithography and manufacturing process technologies have allowed for significantly reduced transistor geometries, resulting in considerably lower power consumption per IC and a greater level of integration. These advancements, as well as additional innovations in the area of digital signal processing, have enabled the use of copper cabling for high-speed data transmission.

Ethernet cable, in its present form, was devised with the standardization by the Institute of Electrical and Electronics Engineers, or IEEE, of 1MbE in 1986, which was the first of a long line of standards that pushed the speed limits carried over copper cabling. Most recently, the standard evolved into a technology commonly referred to as BASE-T, which started with the introduction of 10BASE-T (speeds of 10 megabits per second, or Mbps) and eventually evolved into the current standard, 10GBASE-T (speeds of 10 gigabits per second, or Gbps). A unique characteristic of BASE-T is its backward compatibility with earlier Ethernet standards. A 10GBASE-T transceiver, for example, is capable of working at the lower speeds of the previous two standards, 1000BASE-T (speeds of 1000Mbps) and 100BASE-T (speeds of 100Mbps). As a result of this backward compatibility, network engineers and IT managers are able to install new equipment in phases and can, for example, purchase 10GBASE-T servers that connect to a legacy 1000BASE-T switch, with the links running at 1GbE. Then, once the switch is replaced with a new 10GBASE-T version, all the links would run at 10GbE.

The Data Center Market

Data centers can be categorized as corporate data centers and cloud, or hyperscale, data centers. For both corporate and hyperscale data centers, servers and switches are the two main components of the data center architecture. Traditionally, servers have been located in vertical racks placed side by side in long rows of equipment. Server ports are connected to Ethernet switches, which have the function of directing the traffic to either an upper layer of aggregation (typical of the older client server North-South traffic model) or to other server nodes (typical of the increasing server-to-server East-West traffic model). In the North-South model, traffic flows down to the lower levels for routing services and then back up to reach its destination. In the East-West model, traffic flows are spread across multiple server nodes, requiring hosts to traverse network interconnection points. In either case, the connectivity between the server and the switch ports in a data center is rather short, typically just a few meters, and at most 100 meters. In contrast, the connectivity between switches in the next layers can be quite long depending on the overall topology. As more data is consolidated and processed in data centers, the need for higher performance server nodes has been met with constant innovation in both processor computing power and increased use of server virtualization, both resulting in an increased demand for higher bandwidth connectivity in servers. According to Crehan Research, approximately 80% of all connections currently are between switches and servers (the two main components of data center architecture), and 80% of those connections are electrical, resulting in electrical interconnect solutions accounting for more than 60% of data center connections.

Corporate Data Centers Corporate data centers are very cost sensitive and, as a result, have historically made use of Ethernet cabling. Crehan Research estimates that, in 2016, 65% of all server-class Ethernet networking connections shipped were 1GbE connections, 90% of which were 1000BASE-T. We believe that this significant penetration of 1GbE over twisted-pair copper cabling is directly correlated with the preference by corporate IT managers for this medium. In networking infrastructure, cost is a major driver for upgrade cycles and transitions to the newer interconnect technologies. Today, as the cost of 10GbE over twisted-pair copper cabling, or 10GBASE-T, is approaching twice that of 1000BASE-T, network engineers are transitioning their focus to purchasing equipment that supports the faster speed, allowing them to improve performance, increase work efficiency of their organizations and prepare their network for future improvements, which is driving the current upgrade cycle. Crehan Research projects that shipments of 10GBASE-T in data centers will reach 29 million ports in 2020, representing approximately 23% of all ports shipping to data centers that year and a CAGR of 27% from 2017 through 2020.

Cloud Data Centers (Hyperscale Data Centers) In the case of cloud, or hyperscale, data centers, the processing and bandwidth requirements have traditionally been very demanding, with applications ranging from large-scale search engine implementation to high-performance computing for research and high-frequency trading and social media applications characterized by large number of embedded feeds, cross-referencing and videos. These architectures were the first to adopt 10GbE, and are now in various stages of transition towards 25GbE, 40GbE, 50GbE and in some cases 100GbE. These deployments leverage leading-edge technologies, and although they represent a minority of the data centers deployed today, they are expected to increase in importance in the future. Crehan Research projects that, out

of a total of approximately 130 million ports shipping to data centers in 2020, shipment of 100GbE, together with 25GbE and 50GbE, will reach 47 million ports, representing approximately 37% of all ports shipping to data centers that year and a CAGR of 87% from 2017 through 2020.

The Enterprise Infrastructure Market

In the early 2000s, the enterprise infrastructure market experienced a very rapid transition from 100MbE to 1GbE. The adoption of 1GbE as the preferred connectivity between PCs and the Ethernet switches located in server rooms was facilitated by the ease of deployment of Ethernet cables in the ceilings and walls of the enterprise. Category 5e, or Cat5e, and Category 6, or Cat6, cables were, and continue to be, widely deployed, representing more than 90% of the worldwide base of cables installed between 2003 and 2014. In the past 10 years, the enterprise infrastructure market has also seen an increasing number of wireless LAN, or WLAN, APs being deployed throughout buildings, airports, shopping malls and stadiums, driven by the proliferation of smartphones, laptops and other portable devices. These APs generally connect through a 1GbE infrastructure to the wiring closet or campus Ethernet switch using the same Ethernet cabling infrastructure, and often the same switches, used by desktop PCs.

1GbE connections have historically been sufficient to carry the wireless traffic over the wired infrastructure due to the limited bandwidth of the WiFi standards 802.11 b/g/n and even the first wave of 802.11ac. However, WLAN AP manufacturers have commenced the deployment of the second wave of 802.11ac, which has throughput of up to about 5Gbps, followed recently by the new WiFi standard 802.11ax, with similar throughput requirements. As a result, for the first time in over a decade, IT managers are faced with the challenge of carrying these bandwidths in excess of 1GbE, or Multi-Gig, over legacy Ethernet infrastructure that is designed to only support 1Gbps. Network administrators have traditionally had three options when confronted with this bottleneck: (1) leave the legacy infrastructure in place and aggregate data traffic over more cables; (2) upgrade to data center-class Ethernet cables that support 10GBASE-T; or (3) upgrade to optical interconnect solutions. The first option presents scalability challenges. The latter two pose significant cost barriers and entail considerable disruption to the physical plan of any building or campus. As a result, there is a need in the enterprise infrastructure market for a scalable, lower-cost alternative to support this network upgrade cycle. 650 Group projects that shipments of 2.5GBASE-T and 5GBASE-T in the enterprise infrastructure market will reach 57 million ports in 2020, representing a CAGR of 112% from 2017 through 2020. 650 Group also estimates that in 2020, 385 million ports in enterprise and small- and medium-sized businesses still will be 1GbE, representing a significant opportunity for growth for Multi-Gig.

The Access Market

The access market is composed of two sub-categories: client connectivity and carrier access.

Client connectivity—As Multi-Gig technology starts permeating the enterprise infrastructure as a PHY solution, replacing the legacy 1GbE connections on Ethernet switches, the need for PCs to adopt this Multi-Gig solution has emerged. Despite the trends towards lighter and thinner machines such as notebooks and laptops, IDC projects that PCs will continue to be equipped with Ethernet ports for the foreseeable future, estimating that 194 million PCs, or approximately 80% of the total market, will ship with an Ethernet port by 2020, driven by enterprise buyers and gamers. Based on current adoption trends, we estimate that 10 million ports of Multi-Gig Ethernet, in the form of 2.5GBASE-T, 5GBASE-T and 10GBASE-T, will ship in 2020 as PC users transition to Multi-Gig. Inside PCs, the PHY is typically integrated with an Ethernet data link layer function, as defined in the Open Systems Interconnection model, or OSI model, called a network controller or Media Access Control, or MAC, device. We believe that integrated solutions combining both the PHY and the controller are likely to become the preferred choice of PC original equipment manufacturers.

Carrier access—Our targeted carrier access market focuses on the last 100 meters between the carrier or service provider termination device, which is typically located in the basement of an apartment complex or the entry-door cabinet in an individual home, and the residential gateway box which is typically owned or leased by the consumer. This last 100 meters is also called wide-area-network, or WAN, and the local-area-network, or LAN, side of the gateway. As carriers and service providers deploy “last-mile” high bandwidth technologies, such as Passive Optical Network, or PON, Digital Subscriber Line, or DSL, and cable modem, the need has arisen to provide high-bandwidth, low-cost, easy-to-deploy solutions to connect termination devices and gateway boxes. The bandwidth requirement is now exceeding 1 Gbps in an increasing number of deployments, on distances that are typically within 100 meters between termination device and gateway box. In addition, we anticipate that the availability of Multi-Gig Ethernet on PCs, Network-Attach Storage, or NAS, as well as 802.11ac/ax WiFi extenders and wireless routers, will drive the need for gateways to migrate from 1GbE to Multi-Gig Ethernet on the LAN side as well. Dell’oro projects that 74 million gateways will ship in 2020, representing a total of 370 million ports as gateways typically ship with five Ethernet ports per box. We estimate that seven million ports of Multi-Gig Ethernet will ship on the WAN and LAN sides of these gateways in 2020.

The Automotive Market

The automotive market is undergoing a transformation with the development of self-driving cars. Developing a fully autonomous vehicle requires innovation in the areas of image processing, fast and multi-dimensional decision making processes, and deep learning, similar to some of the most advanced facial recognition algorithms or complex model simulations being handled by super computers in hyperscale data centers today. As a result, systems that are being contemplated by the car industry to deliver such capabilities will likely need high-speed signaling connecting together end points such as cameras and other sensors, processing units, and an array of switches for rich connectivity and redundancy. Ethernet is one of the most promising technologies to deliver the high-speed connectivity required for making the self-driving car a reality. The car environment has its own very stringent set of requirements such as low weight, low power consumption, limited electro-magnetic emissions and susceptibility, ability to support higher spread of environmental temperature, and low cost. In terms of connectivity, this matrix of requirements is well served by high-speed Multi-Gig Ethernet over copper cabling. The potential market opportunity is considerable. Raymond James estimates that the silicon content in ADAS/autonomous vehicles will generate approximately $30.0 billion in revenue by 2030. We are currently shipping products into this market but do not expect significant volume production to occur until 2019.

Industry Opportunities

- ***Increasing Bandwidth Requirements.*** The proliferation of mobile devices and the migration of data to the cloud have resulted in the exponential growth of global IP traffic and bandwidth bottlenecks on the wired side of networking equipment, including the data center and the enterprise. 10GbE in data centers and Multi-Gig Ethernet in enterprises and autonomous driving vehicles have emerged to enable high-speed delivery of bandwidth-demanding applications.

- ***Importance of Backward Compatibility and Use of Existing Infrastructure.*** Enterprises and data center providers need the flexibility to upgrade their server and switch infrastructure at different times, which drives the need for interconnect solutions to be backward compatible with existing infrastructure. In addition, the ability of a new technology to operate over existing cabling infrastructure is paramount in the enterprise, given that installing new cabling is both very costly and highly disruptive. Connectivity solutions based on Ethernet cabling that are backward compatible enable easy upgrades and continuity of operation, which can provide a cost-effective transition to 10GbE and Multi-Gig Ethernet.

- ***Limitations of Existing Alternatives.*** The existing alternative for high-speed connectivity is optical-based glass or fiber cabling. The high cost of optical solutions makes their use only appropriate for long distances or where there is no electrical interconnect solution alternative. In the case of corporate data centers, there is also the alternative of enhanced small form-factor pluggable direct attach cable, or SFP+ DAC. Nevertheless, the limited reach of 10GbE SFP+ DAC restricts its use within the corporate data center to very short distances. Interconnect solutions based on 10GbE and Multi-Gig Ethernet over copper cabling provide the optimal combination of high performance interconnectivity with adequate reach at a minimized installation cost.

Challenges to the Adoption of 10GbE and Multi-Gig Ethernet over Copper Cabling

- ***Technical Challenges.*** The continued increase in signal transmission speeds presents a number of technical challenges due to the significant impairments, such as attenuation, crosstalk and echo, suffered by the signal as it is transmitted over copper cabling. As transmission speeds increase beyond 1Gbps, the amount of processing required to be performed in the silicon layer to address these impairments increases correspondingly, leading to greater design complexity. In recent years, innovations in the areas of digital signal processing and semiconductor manufacturing have further advanced the use of copper cabling for high-speed data transmission.

- ***Power Consumption.*** As the amount of processing performed in the silicon layer increases to address signal impairments, the power consumption of the entire PHY device also increases. In recent years, advancements in lithography and other manufacturing process technologies have allowed for significantly reduced transistor geometries, resulting in considerably lower power consumption per IC and a greater level of integration. Interconnect solutions based on 10GbE over copper cabling have benefited from these manufacturing advancements. For instance, first-generation solutions consumed

up to 25W of power, requiring additional cooling technologies. Current generation solutions based on 28nm silicon reduce typical power to a couple of watts.

Nevertheless, addressing these technical challenges with conventional silicon architectures generally yields ICs that are inefficient and consume more power. We believe the design of complex signal processing solutions requires a novel architectural approach.

Our Solution

We have developed a differentiated architecture that leverages our deep technical design expertise to create integrated high-performance connectivity solutions that address the significant opportunities present in the data center, enterprise infrastructure and access markets. Our Ethernet PHY solutions provide a critical interface between the high-speed analog signals transported over wired infrastructure and the digital information used in computing and networking equipment. Our architecture combines our two fundamental innovations, MMSP and MCSP, as well as several other patented techniques in AFE design, algorithms, power management and programmability.

Key features of our highly integrated, mixed-signal ICs include:

- ***Advanced Analog Front-End Design.*** Our small form factor, low-power, high-speed and high-resolution data acquisition circuits include the analog-to-digital converter, or ADC, and digital-to-analog converter, or DAC, which provide the interface between the real-world signal coming from the cables and the digital processing engine. Our world-class team of analog engineers designed these complex AFE building blocks to be power efficient, highly reusable across many of our products, and easily scalable with advanced CMOS processes as they emerge.

- ***Mixed-Mode Signal Processing Architecture.*** We have designed a novel analog architecture that we call MMSP, which provides a different partitioning of signal processing between the analog and digital domains. MMSP reduces the complexity of data acquisition circuitry and, as a result, reduces the die size and power consumption of the overall AFE. MMSP also simplifies the digital signal processing logic that follows the ADC.

- ***Multi-Core Signal Processor Architecture.*** We estimate that the total amount of processing required to counteract the effect of impairments on a Multi-Gig signal as it is transmitted over copper cabling is approximately 10 Tera-operations per second, which is approximately 200 times more than 1GbE. Processing such a large amount of data with a traditional architecture would be highly inefficient and costly. We use our proprietary transistor-level implementation and mapping techniques to create highly efficient multi-core processing engines, which we call MCSPs. Our MCSPs deliver high performance with low power consumption and a small footprint.

- ***Extensive Development of Proprietary Advanced Signal Processing Algorithms.*** The process of detecting and decoding the desired data from a noisy environment requires sophisticated digital signal processing, or DSP, and algorithms that we have developed over the last 10 years with our team of DSP engineers. We believe these algorithms are critical to the performance and the stability of the end customer solution.

- ***Advanced Power Management Techniques.*** Designing a multichannel Ethernet PHY interface that can handle data transfer speeds up to 10Gbps while minimizing leakage power across smaller process geometries presents a significant challenge. However, by combining innovative techniques, our engineers have been able to significantly reduce the impact of static and dynamic leakage power.

- ***Fully Configurable Programmable Architecture.*** We design our semiconductor solutions to operate in a variety of environments and applications. By keeping our architecture programmable, we enable our customers to use the same device in different applications and enjoy the optimum benefits of our solutions. This programmable architecture also enables us to scale across multiple markets and improve our time to market.

We initially used these core innovations in the development of 10GBASE-T PHY devices, and subsequently in custom ASICs for Intel that integrate our PHY devices with various elements of Intel's proprietary technologies. These custom ASICs are driving the transition to 10GbE networking from legacy 1GbE technology in corporate data center server applications. More recently, we employed our fundamental PHY expertise to develop AQrate, our technology designed to improve transmission speeds from 1GbE to 5GbE over existing copper cabling infrastructure in the enterprise infrastructure and access markets. We also developed a breakthrough 100GbE interconnect solution we call QuantumStream, leveraging on our core expertise and proprietary architecture. Our QuantumStream technology is capable of transporting data at a speed of 100Gbps over a single lane of copper cabling and is aimed at inter and intra rack connectivity of up to three meters complementing longer reach optical connectivity solutions in hyperscale data centers and cloud computing environments. According to estimates by Crehan Research, this represents the majority of direct server and storage Ethernet network connections in hyperscale data centers. We are currently developing solutions for Multi-Gig Ethernet over copper to serve the potential automotive market opportunity but do not expect significant volume production to occur until 2019.

Benefits We Provide to Our Customers

We believe our solutions provide our customers the following benefits:

- ***Performance.*** The combination of our MMSP and MCSP innovations creates an architecture that is die-size optimized for high performance. These core processing units are responsible for correcting impairments suffered by the signal as it is transmitted over Ethernet cable for Multi-Gig and 10GBASE-T, or over backplanes and direct attach cable in the case of 100GbE. We believe our innovative, low cost implementation of these building blocks delivers quality and reliability that exceed industry standards. This translates into additional margin in the system design, allowing customers to meet or even surpass quality expectations of their end customers.

- ***Power.*** We produce ICs that reduce complexity in the digital signal processing logic due, in part, to our novel MMSP architecture. Architectural innovations such as our MMSP have enabled our PHY ICs to deliver low power consumption. For instance, our first generation PHY product was delivered at lower power in 90nm process node compared to similar products delivered by our competitors in 65nm process node. Additionally, since analog does not shrink through process scaling, and our architecture benefits from an intrinsically smaller design, we expect a sustainable and growing advantage as the design migrates to finer process geometries. We were the first to deliver a 28nm product to the market, and we endeavor to maintain our leadership position.

- ***Port Density.*** Our proprietary analog architecture leads to small-footprint ICs. As we migrated our 10GbE solution to the 40nm process node, our higher density design allowed us to deliver the industry's first 10GBASE-T quad-port in a 25mm x 25mm package. We believe this small-size package enabled our customers, for the first time, to design a high-density 48-port switch platform in a single-row of chipsets, instead of the inefficient 2-row design that was previously used. In addition to high port-density Ethernet switching applications, our small-footprint IC solutions are being used in space-constrained products such as WLAN APs and computing platforms. Recently, we have also introduced the industry's smallest single-port 2.5GBASE-T, 5GBASE-T and 10GBASE-T PHY, designed on a 28nm process, with a footprint of 7mm x 11mm. Beside its application in space-constrained products such as WLAN APs and residential gateways, this IC was also designed in Aquantia-branded SFP+ pluggable modules supporting 2.5GBASE-T, 5GBASE-T and 10GBASE-T. These SFP+ products are currently being deployed in data center and enterprise-type switches and servers that have been shipped with empty SFP+ cages.

- ***Innovation and Customer Focus.*** Given the technical challenges associated with developing high-speed PHY products, our customers typically rely on our technical expertise, deep understanding of the PHY market and execution track record to deliver them solutions. By anticipating future trends and demonstrating an in-depth understanding of our customers' evolving needs, we believe we have the ability to translate our ideas into innovative product concepts, which in turn enables our customers to

deliver best-in-class products into their markets. We operate at a high level of responsiveness to our customers' needs due to our lean structure and process efficiency, and have a well-established track record of delivering on our customers' specifications from the first silicon order.

- ***High Quality.*** To sustain our market leadership, we emphasize high quality across all of our product lines and continuously work to exceed customer expectations. Our high-volume customers report quality metrics on products we ship that are significantly higher than industry norms. We have been able to maintain this standard of high quality across three generations of standard CMOS process technology, most recently in 28nm process node.

Customer Case Study

One example of a customer for whom we created a new enterprise connectivity solution using our Ethernet PHY technology is Cisco.

Problem Statement:

We recognized early in 2012 that the next generation campus environment needed a higher throughput connectivity technology to support the growing bandwidth demand of wireless technologies. The industry had no such solution available and a new technology would need to be developed in order to support up to 5GbE capability that future wireless APs would demand. With this vision of the future enterprise network, we approached Cisco with a proposal to design new enterprise switches and WLAN AP product lines with a new Ethernet PHY technology capable of transporting the required Multi-Gig bandwidth on the existing Cat5e/Cat6 cabling infrastructure. Since our proposed new design architecture was a new communication protocol, we coordinated its adoption by IEEE as a standard in order to ensure full interoperability across the industry.

Aquantia Solution:

In 2012, we began partnering with Cisco to bring AQrate, our answer to delivering a 2.5GbE and 5GbE solution to market. We developed AQrate by leveraging our 10GBASE-T IP and our deep understanding of copper cabling characteristics and communication theory, while Cisco provided guidance on the switching and WLAN AP systems architecture. In November 2013, we sampled to Cisco the world's first 2.5GbE and 5GbE solution, which allowed them to start system-level testing and qualification, typically a 12 to 18-month cycle, across multiple enterprise and campus-class Ethernet switches. Upon completion of its development cycle, Cisco unveiled the world's first AQrate-based Multi-Gig switching system at Cisco Live in January 2015. We believe this product release has strengthened our relationship with Cisco. This is evidenced by significant design wins across a multitude of Cisco's key switching and WLAN AP platforms, several of which have already been shipped to market. For the years ended December 31, 2015 and 2016, Cisco accounted for 13% and 21% of our revenue, respectively. The increase in Cisco's revenue was mainly due to volume production and shipment of our AQrate products to serve the enterprise infrastructure market.

This Multi-Gig technology was the basis for the formation of the NBASE-T Alliance, which we founded with Cisco, Freescale and Xilinx in October 2014. Our innovations are the foundational technologies seeded in the NBASE-T Alliance specifications and baseline adopted by the IEEE for the IEEE 802.3bz standard for 5GBASE-T and 2.5GBASE-T products.

Our Competitive Strengths

- ***Differentiated Technology Architecture.*** We believe our connectivity solutions, many of which are protected with patents and our fundamental trade secrets around analog and mixed signal design, provide us with a significant competitive advantage across our target end markets. Our semiconductor solutions have repeatedly established benchmarks in the industry in terms of performance, power

consumption and density. We believe our design techniques and technical innovations, including our MMSP and MCSP technology, enable us to successfully compete with and win designs against larger, more established peers. As of June 30, 2017, we had a total of 85 issued patents, 73 of which are U.S. patents, and 29 pending and provisional U.S. patent applications. We continue to invest in our core technology to stay ahead of the competition in the process node migration of our products.

- ***Top Industry Talent.*** We believe the engineering and design talent of our employees is critical to our success. As of June 30, 2017, we employed 186 engineers with deep technical expertise in analog, digital signal processing and mixed-mode signal design, digital signal processing, communication theory and chip-level integration. Our highly talented team of engineers brings together expertise in varied products, including Ethernet PHYs, high-speed serializer/deserializer, Ethernet switching, cellular networking, memory, microprocessors, programmable logic arrays, PLDs, and experience from across industry leaders, including AMD, Beceem, Broadcom, Centillium, Intel, LSI Logic, National Semiconductor, Philips and Samsung. We intend to continue to aggressively recruit and seek to retain talented engineering and design personnel.

- ***Consistent Long-Term Relationships with Leaders in Our Markets.*** We have built significant long-term relationships with, and have developed our solutions for, industry leaders, including Intel, the leader in server microprocessors, and Cisco, the leader in networking infrastructure. We have repeatedly demonstrated our ability to address and preempt the technological challenges facing each of these customers and, as a result, we are designed into several of their respective current systems and their emerging products and architectures. Our key customers rely on our technologically advanced solutions to enable their end products to provide their customers with the highest performance and reliability while maintaining a low total cost of ownership. As such, we have built significant long-term relationships with our key customers that enable them to trust our ability to successfully execute to their internal roadmaps and meet the needs of their end customers.

- ***Market Insight and Vision.*** We are deeply involved with our customers in defining next-generation technologies by leveraging our market knowledge and product expertise in the data center, enterprise infrastructure and access markets. We are helping shape our customers' roadmaps and product offerings to their end customers through our fundamental understanding of their technology cycles and product needs. We believe this has enabled us to anticipate market trends ahead of our competition, develop innovative technologies in existing markets and create new market opportunities.

- ***Track Record of Execution.*** We believe we have demonstrated a track record of execution excellence by productizing existing technologies and bringing to market industry-defining technological developments. To date, we have shipped millions of data center-class ICs with our core communications technologies and have achieved more than 170 design wins for ASIC and PHY products across a variety of end markets with a growing number of existing and new customers. Similarly, we demonstrated our ability to bring an entirely new product to market with the successful development and launch of AQrate in the enterprise infrastructure and access markets. AQrate has been established as the technology leader through its adoption by the IEEE as the baseline for the IEEE 802.3bz standard for 2.5GBASE-T and 5GBASE-T products.

Our Strategy

Key elements of our strategy include:

- ***Expand Market Share with Leaders in Existing Markets.*** Customers with which we have existing supplier relationships are continuously developing new products in existing and new application areas. These customers tend to be large multinational enterprises with significant annual budgets for IC purchases. We intend to increase our market share through our existing customer base by applying our design capabilities to new design programs and by continuing to foster deep relationships with these customers. We believe our product roadmaps will enhance our ability to win new business due to the

fact that these new roadmaps have been developed in close collaboration with our existing customers. Further, these customers also typically include our products to develop their future product roadmaps.

- ***Sell to New Customers in Existing Markets.*** We have successfully demonstrated a number of key benefits to our existing customers within certain applications and markets, such as the data center and enterprise infrastructure markets. We believe these customers' products have become more competitive as a direct result of using our solutions. We intend to work with other leading original equipment manufacturers in our existing markets to help them realize similar benefits by deploying our IC solutions.

- ***Broaden Product Portfolio to Target New Markets***. We intend to continue to develop new products that we can leverage across our core data center and enterprise infrastructure markets, and use to penetrate the access and other new markets. In particular, we believe that our core expertise, IP and product portfolio can be leveraged to continue to expand into the access market and to address connectivity needs in the automotive market, where technology requirements for autonomous driving vehicles will push the bandwidth for wired high-speed connectivity well beyond the 100 Mbps and 1Gbps currently being deployed.

- ***Continue to Enhance Key Technological Expertise***. We maintain three intertwining areas of technical expertise: analog and mixed-mode signal design, signal processing and algorithms, and Ethernet networking. Our engineers have a deep knowledge of Ethernet and data networking that enables us to assist our customers in driving their product roadmaps. We intend to invest in research and development to continue to drive industry leadership. To maintain our position as a technology leader, we intend to continue to leverage our deep market insight and product roadmap knowledge of our customers and our customers' customers to look ahead to new products and solutions.

Products

Our products currently address three primary markets, the data center, the enterprise infrastructure and access. We initially focused on the development of 10GBASE-T PHY devices and later, custom ASICs that integrate our PHY devices with customer IP for data center server applications, to lead the transition to 10GbE networking from legacy 1GbE technology. We leveraged our advanced connectivity technology to develop AQrate, a proprietary product designed to significantly improve transmission speeds from 1Gbps to 5Gbps over existing cabling infrastructure in the enterprise infrastructure market. Most recently, we introduced multiple lines of products to serve the access market composed of client connectivity for PCs and carrier access gateways. In total, we have 9 product lines and 35 products in shipping.

Corporate Data Center Products

Our differentiated architecture, combining MMSP and MCSP, was first implemented in the 10GBASE-T line of products, shipping to corporate data center environments. Our architecture's characteristic low-power, high-performance, and high-density enabled us to demonstrate the world's first single-chip 10GBASE-T product in 90nm standard CMOS process. This 90nm generation was the first 10GBASE-T product to be deployed in a corporate data center-class Ethernet switch in 2010.

The follow-on 40nm process generation, unveiled in 2012, led to the world's first fully integrated 10GBASE-T MAC and PHY products for corporate data center servers. This allowed our server customers to deploy the technology for the first time as a LOM solution as part of the Romley server platform cycle. These ICs were also designed on add-on Network Interface Controller cards. The 40nm process generation, in combination with our architecture, allowed us to deliver the highest density 10GBASE-T quad-port solution for 48-port top-of-rack, or ToR, switches. We have shipped the 40nm generation of products in millions of ports to our server and switching customers, contributing to making 10GBASE-T a mainstream technology in corporate data centers.

We have since transitioned to the 28nm process generation, continuing to lead the industry, and delivered the world's first 28nm 10GBASE-T in 2013. Through December 31, 2015, the majority of our revenue has been generated by our 40nm products; however, our 28nm products are beginning to account for an increasingly significant portion of our revenue. For the year ended December 31, 2016, 28nm products accounted for 42% of total revenue. Since inception, we have shipped several million ports of 10GBASE-T PHYs in the data center market. The following table sets forth our products currently in production for the corporate data center market, including our corporate data center ASSP product line and our custom ASIC product line.

Corporate Data Center ASSP Product Line

Product	Process Node	Ethernet Speed	Ports	Package Size	Initial ProductionYear	Primary Applications
AQ1002	90nm	100MbE/1GbE/10GbE	1	21mm	2010	Early generations of switches
AQ1103	40nm	100MbE/1GbE/10GbE	1	21mm	2012	Servers (NIC/NDC)
AQ1202	40nm	100MbE/1GbE/10GbE	2	25mm	2012	Servers (NIC/NDC)
AQ1402	40nm	100MbE/1GbE/10GbE	4	25mm	2012	High-density switches
AQ2104	28nm	100MbE/1GbE/10GbE	1	19mm	2014	Servers (NIC/NDC)
AQ2203	28nm	100MbE/1GbE/10GbE	2	19mm	2014	Servers (NIC/NDC)
AQ2402	28nm	100MbE/1GbE/10GbE	4	25mm	2014	High-density switches

Corporate Data Center Custom ASIC Product Line for Intel

Product	Process Node	Ethernet Speed	Ports	Package Size	Initial ProductionYear	Primary Applications
X540 (Twinville)	40nm	100MbE/1GbE/10GbE	2	25mm	2012	Servers (LOM/NIC/NDC) Intel ASIC
X550 (Sageville)	28nm	100MbE/1GbE/2.5GbE/5GbE/10GbE	2	17mm	2015	Servers (LOM/NIC/NDC) Intel ASIC
X557 (Coppervale)	28nm	100MbE/1GbE/10GbE	1	19mm	2015	Servers (LOM/NIC/NDC) Intel ASIC
X557 (Coppervale)	28nm	100MbE/1GbE/10GbE	2	19mm	2015	Servers (LOM/NIC/NDC) Intel ASIC
X557 (Coppervale)	28nm	100MbE/1GbE/10GbE	4	25mm	2015	Servers (LOM/NIC/NDC) Intel ASIC

Cloud Data Center Products

The Cloud Data Center product line based on the QuantumStream technology is currently under development. It is our intent to implement this technology in both ASSP as well as ASIC products having the 100GbE SerDes ports driving either a backplane or an external pluggable DAC of up to three meters. In the case of a DAC solution, we envision that the 100GbE SerDes could be replicated in a quad-port and octal configuration, enabling 400GbE and 800GbE DAC solution respectively.

Enterprise Infrastructure Products

The development of the AQrate product line, based on the novel 2.5GbE/5GbE protocol invented by Aquantia, started in 2012 and led to the sampling of our first product in November 2013. This innovative product line was quickly adopted by Cisco and other major switching and WLAN AP OEMs in the ensuing months. As of June 30, 2017, we believe we are the only supplier in production of this technology compliant with IEEE 802.3bz standard. Our AQrate product line is composed of single-, dual- quad- and octal-port configurations. The single- and dual-port devices are designed for use in applications ranging from WLAN APs, compact switches, client PCs, storage devices and security cameras, and the quad- and octal-port versions are designed for use in enterprise and campus Ethernet switches. We are currently in full production for our entire line of AQrate products, all of which are manufactured in 28nm and support five Ethernet speeds, including 100M, 1000BASE-T, 2.5GBASE-T, 5GBASE-T and 10GBASE-T. The following table sets forth our products currently in production for the enterprise infrastructure market, which consists of our enterprise ASSP product line.

Product	Process Node	Ethernet Speed	Ports	Package Size	Initial ProductionYear	Primary Applications
AQR105	28nm	100MbE/1GbE/2.5GbE/5GbE/10GbE	1	19mm	2014	WLAN APs, PCs, Storage
AQR205	28nm	100MbE/1GbE/2.5GbE/5GbE/10GbE	2	19mm	2014	WLAN APs, Compact switches
AQR405	28nm	100MbE/1GbE/2.5GbE/5GbE/10GbE	4	25mm	2014	Switches
AQR106	28nm	100MbE/1GbE/2.5GbE/5GbE	1	7x11mm	2015	WLAN APs, PCs, Storage
AQR107	28nm	100MbE/1GbE/2.5GbE/5GbE/10GbE	1	7x11mm	2016	WLAN APs, PCs, Storage
AQR108	28nm	100MbE/1GbE/2.5GbE/5GbE	1	7x11mm	2016	WLAN APs, PCs, Storage
AQR109	28nm	100MbE/1GbE/2.5GbE	1	7x11mm	2016	WLAN APs, PCs, storage
AQR407	28nm	100MbE/1GbE/2.5GbE/5GbE/10GbE	4	19mm	2016	Switches
AQR408	28nm	100MbE/1GbE/2.5GbE/5GbE	4	19mm	2016	Switches
AQR409	28nm	100MbE/1GbE/2.5GbE	4	19mm	2016	Switches
AQR809	28nm	100MbE/1GbE/2.5GbE	8	23mm	2017	Switches

Access Products

- ***Client Connectivity.*** We anticipate that, over time, PC OEMs will adopt solutions that integrate the PHY and MAC controller. Our product road map for PC OEMs includes the AQC line (standard product), AQS line (SFP+ modules), and AQN line (NIC), which are all based on our GEN2 AQrate PHYs. These PHYs are low-power, high performance 5-speed 10GBASE-T/5GBASE-T/ 2.5GBASE-T/ 1000BASE-T/ 100BASE-TX transceivers. Our products deliver 2.5GbE and 5GbE network connectivity speeds through 100 meters of Cat 5e cabling. Using a 30-meter Cat 6a cable, 10GbE speeds are achievable. These products are compliant with IEEE 802.3an/802.3bz standards to perform all the physical layer functions required to implement 10GBASE-T/5GBASE-T/ 2.5GBASE-T/1000BASE-T/100BASE-TX transmission over twisted pair cabling.

- ***Carrier Access.*** Our PHY products designed for carrier and service provider applications are those with part numbers starting with AQCS.

Product	Process Node	Ethernet Speed	Ports	Package Size	Initial ProductionYear	Primary Applications
AQC100	28nm	10G(XFI/KR/USXGMII)	1	7x11mm	2017	Workstations, Servers, NIC, embedded
AQC107	28nm	100MbE/1GbE/2.5GbE/5GbE/10GbE	1	12x14mm	2017	PC, Workstations, Motherboard, NIC, embedded
AQC108	28nm	100MbE/1GbE/2.5GbE/5GbE	1	12x14mm	2017	PC, Workstations, Motherboard, NIC, embedded
AQCS409	28nm	100MbE/1GbE/2.5GbE	4	19x19mm	2016	Service provider access, Switches, WiFi extenders, Industrial
AQCS109	28nm	100MbE/1GbE/2.5GbE	1	7x11mm	2016	Service provider access, WiFi extenders, Industrial

Board and Module Products

Product	Form Factor	Port Type and Ethernet Speeds	Ports	Interface	Initial ProductionYear	Primary Applications
AQN100	NIC	SFP+NIC 10GbE	1	x4 PCIe	2017	Workstations, Servers, NIC, embedded
AQN107	NIC	RJ45 100MbE/1GbE/2.5GbE/5GbE/10GbE	1	x4 PCIe	2017	PC, Workstations, Motherboard, NIC, embedded
AQN108	NIC	RJ45 100MbE/1GbE/2.5GbE/5GbE	1	x1 PCIe	2017	PC, Workstations, Motherboard, NIC, embedded
AQS107	SFP+	RJ45 100MbE/1GbE/2.5GbE/5GbE/10GbE	1	XFI	2017	Switch, WLAN APs, Service provider gateways
AQS108	SFP+	RJ45 100MbE/1GbE/2.5GbE/5GbE	1	XFI	2017	Switch, WLAN APs, Service provider gateways

AQS109	SFP+	RJ45 100MbE/1GbE/2.5GbE	1	XFI	2017	Switch, WLAN APs, Service provider gateways

Our Customers

We sell our products directly to IC suppliers, OEMs and original design manufacturers, or ODMs. We work closely with our OEM customers throughout their design cycles, and we are able to develop long-term relationships with them as our technology becomes embedded in their products. As a result, we believe we are well-positioned to be designed into their current systems and to continually develop next generation Ethernet solutions for their future products. During the year ended December 31, 2016, we sold our products to more than 70 customers.

Across the corporate data center, enterprise infrastructure and access markets, our customers include Brocade, Cisco, Dell, Extreme, Hewlett-Packard, IBM, Intel, Juniper and Oracle, among others. Intel is the industry leader in server microprocessors, Cisco is the industry leader in networking infrastructure, and collectively, our customer base represents a significant majority of market share in these industries.

We currently rely, and expect to continue to rely, on a limited number of customers for a significant portion of our revenue. For the years ended December 31, 2014, 2015 and 2016 and the six months ended June 30, 2017, Intel accounted for approximately 68%, 78%, 68% and 65% of our revenue and our 10 largest customers collectively accounted for 99%, 98%, 98% and 98% of our revenue, respectively. Further, for the year ended December 31, 2014, Brocade accounted for 10% of our revenue, and for the years ended December 31, 2015 and 2016 and the six months ended June 30, 2017, Cisco accounted for 13%, 21% and 27% of our revenue, respectively. No other single customer directly or indirectly accounted for more than 10% of our revenue in the years ended December 31, 2014, 2015 or 2016 and the six months ended June 30, 2017.

Sales to customers in Asia accounted for 74%, 92%, 99% and 99% of our revenue in the years ended December 31, 2014, 2015 and 2016 and the six months ended June 30, 2017, respectively. Because many of our customers or their ODMs are located in Asia, we anticipate that a significant portion of our products will continue to be sold to Asia.

Intel Relationship

Intel is the industry leader in the server microprocessor space, with over 99% market segment share for the year ended December 31, 2015, according to IDC. We have developed a close working relationship with Intel over the past seven years, during the course of which we have entered into a series of custom ASIC contracts.

We were initially selected to collaborate as an Intel 10GBASE-T supplier in 2008 on the basis of our ability to integrate their IP with our PHY technology at 40nm. We signed our first custom ASIC contract with Intel in 2009, agreeing to develop the first server 10GBASE-T ASIC. The agreement led to a 3-year upfront investment by both parties based on our integration of Intel's IP with our 40nm 10GBASE-T PHY device, as a single-chip, dual-port IC. We sell this custom ASIC exclusively to Intel, which is marketed under its brand as the X540, also referred to as Twinville. Due to the long development cycles of semiconductor components for server systems, networking ASIC designs are typically awarded 3 years prior to the release of new processor platforms, which occurs approximately once every two years. Following the development phase, the X540 was jointly approved for production release in early 2012, unveiled by Intel in conjunction with the Romley generation of server platform on March 2012 and was adopted by leading server OEMs and ODMs. We have been in production and shipping our 40nm custom ASIC in volume to Intel since 2012. Typically, the life cycle of this type of custom ASICs spans across multiple server generations. We estimate the lifecycle of a new custom ASIC program from initial design development until end of life to be approximately 10 years per project, on a cadence of one new project entering the pipeline every two to three years. This 40nm custom ASIC continues to be the vehicle for Intel to deliver 10GBASE-T enabled products.

Following this initial collaboration, we entered into two subsequent 28nm custom ASIC contracts for future processor platforms. These 28nm custom ASICs are sold by Intel under the part numbers X550 and X557, and referred to as Sageville and Coppervale, respectively. The contracts for these new custom ASICs were awarded in 2012 and entered production in 2015. We believe these products are likely to be paired with future generations of processor platforms and could become the only BASE-T networking vehicle between 2017 through 2020. We anticipate that the X540 will continue shipping until X550 and X557 fully ramp in volume.

We have achieved a significant level of product integration with Intel as a result of these custom ASIC engagements, and as a result of Intel's position in the server market segment, our in-depth knowledge and anticipation of their customers' needs, we believe we have strong visibility into the networking roadmap for servers and processors. Through these custom ASIC contracts, Intel helps establish and bolster our presence in the market by acting as both a customer and a channel reseller, selling into hundreds of server OEMs and ODMs.

NBASE-T Alliance

In 2013, we sampled our first AQrate ICs to Cisco and partnered with them in the development of the industry's first 2.5GbE/5GbE capable enterprise and campus Ethernet switch platforms. In October 2014, together with Cisco, Freescale and Xilinx, we formed the NBASE-T Alliance, a not-for-profit organization dedicated to the development and promotion of the 2.5GbE/5GbE technology. Today, the NBASE-T Alliance membership includes more than 40 members, covering a wide spectrum of the enterprise and mobile infrastructure, with component manufacturers, switching, WLAN, PC and storage OEMs, as well as cabling, connectors and Power-over-Ethernet suppliers. Our collaborative efforts in the NBASE-T Alliance have solidified the deployment of 2.5GbE and 5GbE data rates over existing Cat5e and Cat6 cables without the need to upgrade the cabling infrastructure. The 2.5GbE/5GbE innovations we have developed over the years are the foundational technologies seeded in the NBASE-T Alliance specifications, and baseline adopted by IEEE for the IEEE 802.3bz standard for 2.5GBASE-T and 5GBASE-T products. With the ratification of the 802.3bz standard in September 2016, we are the first company in over 40 years of Ethernet existence to have a standard created purely from its own technology. We are the sole inventor of AQrate technology and the only supplier of these Multi-Gig products in the market today, and we believe we have an estimated three-year lead over the competition.

Sales and Marketing

Our design cycle from initial engagement to volume shipment typically ranges from 18 months to three years, depending on whether we are developing an ASSP or an ASIC, with product life cycles of four years or more. For many of our products, early engagement with our customers' technical staff is critical for success. To ensure an adequate level of early engagement, our application and development engineers work closely with our customers to identify and propose solutions to their systems' challenges.

We work closely with our customers, including technology leaders such as Intel and Cisco for the data center and enterprise infrastructure markets, to anticipate end customer market needs. We also participate actively in setting industry standards with organizations such as IEEE to ensure that we have a voice in the definition of future market trends.

We sell our products worldwide through multiple channels, including our direct sales force, a network of third-party sales representatives and distributors. For major accounts in the United States and some overseas markets, we rely on our direct sales team located in the United States and Taiwan, while for others, we collaborate with third-party sales representatives and distributors in the United States, Asia, Europe, the Middle East and Africa.

Manufacturing

We operate a fabless business model and use third-party foundries and assembly and test manufacturing contractors to manufacture, assemble and test our semiconductor products. This outsourced manufacturing approach allows us to focus our resources on the design, sale and marketing of our products. In addition, we believe that outsourcing many of our manufacturing and assembly activities provides us with the flexibility needed to respond to new market opportunities, simplifies our operations and significantly reduces our capital commitments.

We subject our third-party manufacturing contractors to qualification requirements to meet the high quality and reliability standards required of our products. We carefully qualify each of our partners and their processes before applying the technology to our products. Our engineers work closely with our foundries and other contractors to increase yield, lower manufacturing costs and improve product quality.

- ***Wafer Fabrication.*** We currently utilize a wide range of semiconductor process generations to develop and manufacture our products. For most of our products, we use Taiwan Semiconductor Manufacturing Company, or TSMC, and GLOBALFOUNDRIES for semiconductor wafer production.
- ***Package, Assembly and Testing.*** Upon the completion of processing at the foundry, we use third-party contractors for packaging, assembly and testing, including Amkor, STATS ChipPAC and ASE in Taiwan and Korea.
- ***Warehousing.*** JSI in Hong Kong warehouses our products, providing easy transport and accessibility from the assembly and test sites.

Research and Development

We believe that our future success depends on our ability to introduce enhancements on our existing products and to develop new products for both existing and new markets. As such, a significant majority of our operating expenses has been allocated to this effort. Our research and development efforts are directed to the development of additional high-performance connectivity semiconductor solutions across a range of process technologies.

We have assembled a core team of experienced engineers and systems designers in five design centers located in the United States, Canada, India, the Netherlands and Russia. As of June 30, 2017, we had 186 engineers worldwide (or approximately 80% of our total employees). Our core technology team has been with our company since as early as 2005. Our research and development expenses for the

years ended December 31, 2014, 2015 and 2016 and the six months ended June 30, 2017 were $27.3 million, $25.3 million, $36.6 million and $20.9 million, respectively, excluding the 2015 collaboration and development charge and net of customer development fees (see Note 2 to our audited consolidated financial statements included elsewhere in this prospectus for additional information).

Competition

The global semiconductor market in general, and the data center and wireless communications infrastructure in particular, is highly competitive. We compete in different target markets on the basis of a number of competitive factors. We expect competition to increase and intensify as additional semiconductor companies enter our markets, and as internal silicon design resources of large OEMs grow. Increased competition could result in price pressure, reduced gross margins and loss of market share, any of which could harm our business, revenue and results of operations.

Our competitors range from large, international companies offering a wide range of semiconductor products to smaller companies specializing in narrow market verticals. In the enterprise and data center markets, our primary competitors are Broadcom and Marvell. We expect competition in our current markets to increase in the future as existing competitors improve or expand their product offerings and as new competitors enter these markets. In addition, our future growth will depend in part on our ability to successfully enter and compete in new markets. Some of these markets will likely be served by only a few large, multinational OEMs with substantial negotiating and buying power relative to us and, in some instances, with internally developed silicon solutions that can be competitive to our products.

Our ability to compete successfully depends on elements both within and outside of our control, including industry and general economic trends. During past periods of downturns in our industry, competition in the markets in which we operate intensified as our customers reduced their purchase orders. Many of our competitors are substantially larger, have greater financial, technical, marketing, distribution, customer support and other resources, are more established than we are and have significantly better brand recognition and broader product offerings which may enable them to better withstand similar adverse economic or market conditions in the future. Any such development may materially and adversely affect our current and future target markets and our ability to compete successfully in those markets.

We compete or plan to compete in different target markets to various degrees on the basis of a number of principal competitive factors, including:

- product performance;
- power budget;
- features and functionality;
- customer relationships;
- size;
- ease of system design;
- product roadmap;
- reputation and reliability;
- customer support;
- research and development;
- high-level talent, including our management team and engineers; and
- price.

We believe we compete favorably with respect to each of these factors. We maintain our competitive position through our ability to successfully design, develop and market complex Ethernet connectivity solutions for the customers we serve.

Intellectual Property

We rely on a combination of intellectual property rights, including patents, trade secrets, copyrights and trademarks, and contractual protections, to protect our core technology and intellectual property. As of June 30, 2017, we had 85 issued patents, 73 of which are U.S. patents, and 29 pending and provisional U.S. patent applications. The 73 issued patents in the U.S. generally expire between 2024 and 2032 and three allowed patents in the U.S. expires between 2032 and 2036. Our issued patents and pending patent applications relate to both our 10GBASE-T PHYs, our AQrate PHYs, controller and QuantumStream technologies.

We may not receive competitive advantages from any rights granted under our patents, and our patent applications may not result in the issuance of any patents. In addition, any future patents may be opposed, contested, circumvented, designed around by a third party or found to be unenforceable or invalidated. Others may develop technologies that are similar or superior to our proprietary technologies, duplicate our proprietary technologies or design around patents owned or licensed by us. Further, we may be required to license certain of our patents on reasonable and non-discriminatory terms to our competitors due to having promoted the adoption of certain IEEE standards.

We generally control access to and use of our confidential information through the use of internal and external controls, including contractual protections with employees, contractors and customers. We rely in part on the laws of the United States and international laws to protect our work. All employees and consultants are required to evaluate confidentiality agreements in connection with their employment and consulting relationships with us. We also require them to agree to disclose and assign to us all inventions conceived or made in connection with the employment or consulting relationship.

Despite our efforts to protect our intellectual property, unauthorized parties may still copy or otherwise obtain and use our software, technology or other information that we regard as proprietary intellectual property. In addition, we intend to expand our international operations, and effective patent, copyright, trademark and trade secret protection may not be available or may be limited to foreign countries.

The semiconductor industry is characterized by vigorous protection and pursuit of intellectual property rights and positions, which has resulted in protracted and expensive litigation for many companies. We have in the past received and, particularly as a public company, we expect that in the future we may receive, communications liability for damages that may invalidate our proprietary rights and harm our business and our ability to compete. Any litigation, regardless of success or merit, could cause us to incur substantial expenses, reduce our sales and divert the efforts of our technical and management personnel. In the event we receive an adverse result in any litigation, we could be required to pay substantial damages, seek licenses from third parties, which may not be available on reasonable terms or at all, cease sale of products, expend significant resources to develop alternative technology or discontinue the use of processes requiring the relevant technology.

Employees

As of June 30, 2017, we employed 245 full-time equivalent employees located in the United States, Canada, India, the Netherlands and Russia, including 196 in research, product development, engineering and operations and logistics, 23 in general and administrative and 26 in sales and marketing. We consider relations with our employees to be good and have never experienced a work stoppage. None of our employees are either represented by a labor union or subject to a collective bargaining agreement.

Facilities

Our principal executive offices are located in a leased facility in San Jose, California, consisting of approximately 36,595 square feet of office space under lease that expires June 30, 2018. This facility accommodates product development and our principal engineering, sales, marketing, operations and finance and administrative activities. We also lease offices in Canada, India, the Netherlands and Russia. We do not own any real property. We believe that our leased facilities are adequate to meet our current needs and that additional facilities will be available on commercially reasonable terms for lease to meet future needs.

Legal Proceedings

From time to time, we may become involved in legal proceedings arising in the ordinary course of our business. We are not currently a party to any legal proceedings the outcome of which, if determined adversely to us, would individually or in the aggregate have a material adverse effect on our business, operating results, financial condition or cash flows.

Management

MANAGEMENT

Executive Officers, Other Executive Employees and Directors

The following table sets forth information regarding our executive officers, other executive employees and directors as of September 30, 2017:

Name	Age	Position(s)
Executive Officers		
Faraj Aalaei	56	Chairman, President and Chief Executive Officer
Mark Voll	63	Chief Financial Officer
Kamal Dalmia	45	Senior Vice President, Sales and Marketing
Ramin Shirani	54	Senior Vice President, Engineering and Director
Other Executive Employees		
Phil Delansay	49	Senior Vice President, Business Development
Ramin Farjadrad	46	Vice President, Technology Development
Linda Reddick	63	Senior Vice President, Finance
Sreenivas Vaddi	53	Vice President, Operations
Non-Employee Directors		
Dmitry Akhanov	41	Director
Bami Bastani	64	Director
Geoffrey G. Ribar	59	Director
Ken Pelowski	58	Director
Sam Srinivasan	73	Director
Anders Swahn	60	Director
Lip-Bu Tan	57	Director

Executive Officers

Faraj Aalaei has served as our President and Chief Executive Officer and as a member of our board of directors since January 2009. He became Chairman of the board of directors in October 2016. Prior to joining Aquantia, Mr. Aalaei served as Chief Executive Officer and was one of the founders of Centillium Communications, a semiconductor solutions company. Mr. Aalaei served as the Vice President, Marketing and Business Development from Centillium's inception in February 1997 until January 2000, when he was named Chief Executive Officer. Prior to co-founding Centillium, Mr. Aalaei was Director of Access Products at Fujitsu Network Communications, a designer and manufacturer of fiber-optic transmission and broadband switching platforms, from October 1993 to February 1997. Prior to Fujitsu, Mr. Aalaei spent nine years at AT&T Bell Laboratories as a design engineer in various capacities. Mr. Aalaei received an honorary doctorate degree in Engineering and a B.S. in Electrical Engineering Technology from Wentworth Institute of Technology, an M.S. in Electrical Engineering from the University of Massachusetts and an M.B.A. from the University of New Hampshire. Mr. Aalaei holds three U.S. patents. Our board of directors believes that Mr. Aalaei's extensive experience with companies in the semiconductor industry and his long-standing service at Aquantia qualify him to serve on our board of directors.

Mark Voll has served as our Chief Financial Officer since January 2016. Mr. Voll has more than 25 years of experience in finance and accounting and served as Chief Financial Officer in a number of public and private high technology companies. Prior to joining us, Mr. Voll served as the Chief Financial Officer of Montage Technology Group, an analog semiconductor company, from June 2012 to January 2016, and of Invensense, a provider of MEMS devices for consumer electronics products, from June 2010 to January 2011. Prior to Invensense, Mr. Voll was Chief Financial Officer of Techwell, an analog semiconductor company, from November 2005 to June 2010. Prior to that, he served as Chief Financial Officer for Monolithic System Technology, an intellectual property semiconductor company, from June 2002 to November 2005. Mr. Voll received a B.S. in Accounting from Providence College.

Kamal Dalmia has served as our Senior Vice President, Sales and Marketing since December 2014. He initially joined Aquantia in December 2009 and served as Vice President, Sales and Marketing until December 2014, Mr. Dalmia served as vice president of marketing at Teranetics, a communications semiconductor company, from May 2005 to December 2009 and as director of marketing at Marvell from May 2001 to May 2005. Mr. Dalmia received his M.A.Sc. in Electrical Engineering from the University of British Columbia.

Ramin Shirani is a co-founder of Aquantia and served as our Vice President, Engineering from January 2005 to December 2014, and as our Senior Vice President, Engineering since December 2014 and as a member of our board of directors since January 2005. Prior to founding Aquantia in 2004, Mr. Shirani served as the director and then general manager of Transceiver group of the Micro-electronics division of Lucent Technologies, a telecommunications equipment company, from March 1999 to January 2001. In 1996, Mr. Shirani co-founded the LAN division of Enable Semiconductor, with a focus on Ethernet mixed-signal and transceiver development. Mr. Shirani received his M.S. in Electrical Engineering from the University of California, San Diego. Our board of directors believes that Mr. Shirani's experience as co-founder of Aquantia and his extensive semiconductor experience qualify him to serve on our board of directors.

Other Executive Employees

Phil Delansay was our founding president and Chief Executive Officer, a position that he held from inception in January 2004 until Mr. Aalaei joined us in January 2009. Dr. Delansay served as our Vice President, Business Development from January 2009 to December 2014, and as our Senior Vice President, Business Development since December 2014. Prior to founding Aquantia in 2004, Dr. Delansay was an entrepreneur-in-residence at Greylock Partners from January 2003 to December 2003 and a director at Ciena Corporation, a manufacturer of communications network equipment and solutions, from March 1999 to November 2002. Dr. Delansay received his Ph.D. in semiconductor physics from Orsay University and his MSEE from Ecole Supérieure d'Electricité, France.

Ramin Farjadrad is a co-founder of Aquantia and served as our Chief Architect from 2005 to 2012, as our Vice President Technology from 2012 to 2015, and as Vice President, Technology Development since 2015. Dr. Farjadrad has established himself as a leading architect of high performance communications semicondustors with wide range of expertise in analog/mixed-signal ICs, signal processing and coding. He started his career at Sun Microsystems in 1995, and joined Stanford Center for Integrated Circuits (CIS) in 1996 where he proposed and developed mixed-mode architecture for low-power multi-Gbps transceivers, including the first 10Gbps PAM4 SerDes in 1998. He also co-founded Velio Communications and served as their Chief Engineer from 1999 to 2003 until its acquisition by Rambus and LSI Logic. He served as a Senior Principal at Rambus post acquisition until 2005. Dr. Farjadrad holds over 80 granted/pending patents and has published numerous papers in the field of communication ICs and systems. He received his B.Sc. from Sharif University in 1994, M.Sc. and Ph.D. in EECS from Stanford University in 1996 and 2000 respectively.

Linda Reddick is our Senior Vice President, Finance and served as our Chief Financial Officer since September 2009. Prior to joining Aquantia, Ms. Reddick served as the Chief Financial Officer of Oviso Manufacturing, a contract manufacturing company, from November 2008 to August 2009. From July 2007 to November 2008, Ms. Reddick served as the Vice President and Chief Financial Officer of Centillium Communications, and prior to that she served as the Interim Chief Financial Officer from February 2007 through July 2007 and Corporate Controller from September 2005 through February 2007. Prior to joining Centillium in 2005, Ms. Reddick served as the Chief Financial Officer and in various other financial positions at Avanex Corporation, a fiber optics company. She has also previously served as vice president and controller at Oplink Communications, a manufacturer and seller of optical components, and held various financial positions at Symmetricom, a timekeeping technology company, including vice president of finance at the company's semiconductor subsidiary, Linfinity Microelectronics. Ms. Reddick is a Certified Public Accountant and has over ten years of experience in public accounting, primarily at Deloitte & Touche LLP. She received her B.S. in Business, with a concentration in Accounting, from San Jose State University.

Sreenivas Vaddi has served as our Vice President, Operations since June 2012. Prior to joining Aquantia, Mr. Vaddi served as Technical Director in the Operations and Central Engineering Group at Broadcom from October 2010 to June 2012. Prior to Broadcom, he served as Vice President of Operations at Beceem Communications, a semiconductor company. He has also held various management positions at Intel, Fujitsu, Centillium Communications and LSI Logic, a semiconductor and software company. Mr. Vaddi received his B.E. from University of Mysore and his M.S.E.E. from North Carolina A&T State University.

Non-Employee Directors

Dmitry Akhanov has served as a member of our board of directors since April 2013. Since December 2010, Mr. Akhanov has been the President and Chief Executive Officer of Rusnano USA, Inc., a U.S. subsidiary of Joint Stock Company, or Rusnano, a Russian state instrument dedicated to fostering the growth of the nanotechnology industry in Russia. Previously, from October 2007 through August 2008, Mr. Akhanov was the Head of the Russian Federal Energy Agency, which was responsible for the implementation of national energy policy and management of state-owned energy assets, including oil and gas, coal and electricity industries. Mr. Akhanov also served as head of the Strategy Department of RAO "UES", an electric power holding company, from June 2002 through October 2007. Mr. Akhanov also serves on the board of directors of Neophotonics Corporation. Mr. Akhanov holds a Bachelor's Degree in economics and law and a

Master's Degree in economics from the Peoples' Friendship University in Russia. Mr. Akhanov has extensive experience in strategic planning, corporate finance and investor relations. We believe Mr. Akhanov brings to our board of directors valuable experience in doing business in the Russian Federation and managing complex technology projects, as well as dealing with cross-border business operations.

Bami Bastani has served as a member of our board of directors since June 2016. Dr. Bastani is the Senior Vice President of the radio frequency (RF) business unit at GLOBALFOUNDRIES. Dr. Bastani has more than 35 years of experience in the high-tech industry, ranging from semiconductor components to system level network solutions. He has served as an independent board member at multiple public and private companies. Prior to joining GLOBALFOUNDRIES, he was president, CEO and a board member of Meru Networks, a global enterprise-grade Wi-Fi networks solution provider, from March 2012 to July 2015 when the company was acquired by Fortinet. During his time with Meru Networks, he transformed Meru Networks from a hardware company to a solution provider, delivering a portfolio of software, software-defined networks (in which Meru Networks received the 2015 SDN Excellence Award) and subscription cloud offerings (WaaS). Dr. Bastani has also held the positions of president, CEO and board member in the mobility, consumer and broadband markets. He served as president and CEO of Trident Microsystems, Inc., a set-top box and TV semiconductor company, from June 2011 to April 2012, which filed a voluntary petition for bankruptcy under chapter 11 of the U.S. Bankruptcy Code in 2012, and oversaw the sale of Trident's assets to Entropic Communications, Sigma Designs and certain other acquirers. Prior to his employment at Trident, he was the founder and CEO of B2 Global Consulting. He also led ANADIGICS, Inc. as the president, CEO and a board member through its turnaround and growth from 1998 to 2008. In addition, he has served in executive positions at Fujitsu Microelectronics and National Semiconductor. Dr. Bastani started his career at Intel Corporation in Technology Development. Dr. Bastani holds three patents in semiconductor technology. He holds a Ph.D. and MSEE in Microelectronics from The Ohio State University. We believe Dr. Bastani brings substantial experience and expertise in the semiconductor industry to our board of directors.

Geoffrey G. Ribar has served as a member of our board of directors since September 2017. Mr. Ribar is also a member of the Board of Directors of MACOM Technology Solutions Holdings, Inc. He has served as Senior Vice President of Cadence Design Systems since November 2010 and as Chief Financial Officer from November 2010 until October 1, 2017. Prior to Cadence, he served as Chief Financial Officer for Telegent Systems from May 2008 to October 2010. He served as Chief Financial Officer of a number of semiconductor companies including SiRF Technology, Matrix Semiconductor, Inc. and NVIDIA. Mr. Ribar received his B.S. degree in chemistry, as well as an M.B.A. from the University of Michigan. We believe that Mr. Ribar brings substantial financial experience with publicly-traded companies, audit committee governance and significant semiconductor industry experience to our board of directors.

Ken Pelowski has served as a member of our board of directors since April 2013. Mr. Pelowski founded Pinnacle Ventures in 2002 and currently serves as its Managing Partner. Prior to founding Pinnacle Ventures, he founded and was chairman of the board of Currenex, a technology provider geared toward the foreign exchange community, from December 1999 to December 2003. Prior to Currenex, Mr. Pelowski served as chief operating officer and chief financial officer of GetThere, a corporate travel reservation company, from March 1999 to November 2000. From September 1997 to March 1999, he served as Executive VP and Chief Financial Officer of Preview Travel, a company that provides online travel services for small business and leisure travelers. Mr. Pelowski currently serves on the board of directors of Kabam and Viajanet. Mr. Pelowski holds a B.S. in Engineering and an M.B.A. from the University of Michigan. We believe Mr. Pelowski brings extensive business expertise in technology to our board of directors.

Sam Srinivasan has served as a member of our board of directors since December 2015. Mr. Srinivasan has served on the board of directors of Inphi Corporation since May 2007, and is the chairman of its audit committee and a member of its nominating and corporate governance committee. Mr. Srinivasan served as Chief Executive Officer and Chairman of Health Language, a software company from May 2000 to March 2002. He also served as Senior Vice President, Finance and Chief Financial Officer of Cirrus Logic, a semiconductor company, from November 1988 to March 1996, and as Director, Internal Audits and subsequently as Corporate Controller of Intel Corporation, a semiconductor company, from May 1984 to November 1988. He previously served on the board of directors of SiRF Technology Holdings, Centillium Communications and Leadis Technology. Mr. Srinivasan holds an M.B.A. from Case Western Reserve University. We believe Mr. Srinivasan brings considerable financial experience with publicly-traded companies, audit committee experience and significant semiconductor industry experience to our board of directors.

Anders Swahn has served as a member of our board of directors since August 2008. From February 2013 to December 2015, Mr. Swahn served as the Chairman of the Board of Directors of Alion Energy, and from May 2009 to February 2012, he served as its CEO. Prior to Alion Energy, Mr. Swahn served as the iCEO for Nicira Networks, a company focused on software-defined networking and network virtualization and, prior to that, he served as the Chief Executive Officer of PicoChip, a fabless semiconductor communications company. Mr. Swahn was also CEO and co-founder of Abrizio, a fabless semiconductor company, in 1998, which was later acquired by PMC-Sierra, where Anders Swahn served as VP & General Manager for the Carrier Switching Division. Prior to Abrizio, Mr. Swahn held various management positions in the semiconductor and communications industry including Executive VP, Worldwide Sales & Marketing at Allied Telesyn and principal marketer of the Ethernet product line of chips at Advanced Micro Devices. Anders Swahn started his career with

ABB. Mr. Swahn holds an M.S.E.E. degree from Chalmers University of Technology in Gothenburg, Sweden and an M.B.A. from INSEAD in Fontainebleau, France. We believe Mr. Swahn's knowledge of investing in and managing technology companies qualifies him to serve as a member of our board of directors.

Lip-Bu Tan has served as a member of our board of directors since March 2015 and our lead independent director since October 2016. Mr. Tan has served as Chairman of Walden International, an international venture capital firm, since he founded the firm in 1987. He has also served as President and Chief Executive Officer of Cadence Design Systems, an electronic design automation software and engineering services company, since January 2009 and as a member of the board of directors since February 2004. Mr. Tan currently serves on the board of directors of Semiconductor Manufacturing International Corporation, a semiconductor foundry, Hewlett Packard Enterprise and Quanterra Communications, Inc. He previously served on the board of directors of Ambarella from 2004 to 2017, SINA Corporation from 1999 to 2016, Inphi Corporation from 2002 to 2012, and Flextronics International Ltd. from 2003 to 2012. He holds a B.S. in physics from Nanyang University in Singapore, an M.S. in nuclear engineering from Massachusetts Institute of Technology and an M.B.A. from the University of San Francisco. We believe that Mr. Tan's extensive experience in the electronic design and semiconductor industries, as well as his expertise in international operations and corporate governance, qualifies him to serve as a member of our board of directors.

Board Composition

Our business and affairs are organized under the direction of our board of directors, which currently consists of nine members. The primary responsibilities of our board of directors are to provide oversight, strategic guidance, counseling and direction to our management. Our board of directors meets on a regular basis and additionally as required. The current composition of our board of directors is dictated by our voting agreement, although this agreement will terminate upon the closing of this offering, after which there will be no further contractual obligations regarding the election of our directors. Our board of directors has designated Mr. Tan to serve as our lead independent director.

Our board of directors has determined that six of our nine directors are independent directors, as defined under the listing standards of the New York Stock Exchange, or NYSE.

In accordance with the terms of our amended and restated certificate of incorporation and bylaws, which will be effective upon the closing of this offering, our board of directors will be divided into three classes, Class I, Class II and Class III, with members of each class serving staggered three-year terms.

Effective upon the closing of this offering, our board of directors will be comprised of nine directors divided into the following classes:

- Class I, which will consist of Messrs. Ribar, Shirani and Swahn, whose terms will expire at our first annual meeting of stockholders to be held after the closing of this offering;
- Class II, which will consist of Messrs. Akhanov, Bastani and Pelowski, whose terms will expire at our second annual meeting of stockholders to be held after the closing of this offering; and
- Class III, which will consist of Messrs. Aalaei, Srinivasan and Tan, whose terms will expire at our third annual meeting of stockholders to be held after the closing of this offering.

At each annual meeting of stockholders to be held after the initial classification, the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following their election and until their respective successors are duly elected and qualified. The authorized size of our board of directors is currently nine members, and may be changed only by resolution by a majority of our board of directors. This classification of our board of directors may have the effect of delaying or preventing changes in our control or management. Our directors may be removed for cause by the affirmative vote of the holders of a majority of our voting stock.

Role of the Board in Risk Oversight/Risk Committee

One of the key functions of our board of directors is informed oversight of our risk management process. Our board of directors does not have a standing risk management committee, but rather administers this oversight function directly through our board of directors as a whole, as well as through various standing committees of our board of directors that address risks inherent in their respective areas of oversight. In particular, our board of directors is responsible for monitoring and assessing strategic risk exposure and our audit committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. The audit committee also monitors compliance with legal and regulatory requirements. Our compensation committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking.

Board Committees

Effective upon the closing of this offering, our board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee. Our board of directors has adopted a charter for each of these committees, which complies with the applicable requirements of current NYSE rules. Following the closing of this offering, copies of the charters for each committee will be available on the investor relations portion of our website.

Audit Committee

Our audit committee consists of Messrs. Pelowski, Ribar and Srinivasan. Our board of directors has determined that all members satisfy the independence requirements of NYSE and Rule 10A-3 under the Securities Exchange Act of 1934, or the Exchange Act, applicable to audit committee members. Each member of our audit committee can read and understand fundamental financial statements in accordance with NYSE audit committee requirements. In arriving at this determination, our board of directors has examined each audit committee member's scope of experience and the nature of his or her prior and current employment.

Mr. Srinivasan serves as the chair of our audit committee. Our board of directors has determined that Messrs. Ribar and Srinivasan qualify as an audit committee financial expert within the meaning of SEC regulations and meet the financial sophistication requirements of the NYSE listing rules. In making this determination, our board of directors has considered their formal education and previous and current experience in financial roles. Both our independent registered public accounting firm and management periodically meet privately with our audit committee.

The functions of this committee include, among other things:

- evaluating the performance, independence and qualifications of our independent auditors and determining whether to retain our existing independent auditors or engage new independent auditors;
- reviewing our financial reporting processes and disclosure controls;
- reviewing and approving the engagement of our independent auditors to perform audit services and any permissible non-audit services;
- reviewing the adequacy and effectiveness of our internal control policies and procedures, including the responsibilities, budget, staffing and effectiveness of our internal audit function;
- reviewing with the independent auditors the annual audit plan, including the scope of audit activities and all critical accounting policies and practices to be used by us;
- obtaining and reviewing at least annually a report by our independent auditors describing the independent auditors' internal quality control procedures and any material issues raised by the most recent internal quality-control review;
- monitoring the rotation of partners of our independent auditors on our engagement team as required by law;
- prior to engagement of any independent auditor, and at least annually thereafter, reviewing relationships that may reasonably be thought to bear on their independence, and assessing and otherwise taking the appropriate action to oversee the independence of our independent auditor;
- reviewing our annual and quarterly financial statements and reports, including the disclosures contained under the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations," and discussing the statements and reports with our independent auditors and management;
- reviewing with our independent auditors and management significant issues that arise regarding accounting principles and financial statement presentation and matters concerning the scope, adequacy and effectiveness of our financial controls and critical accounting policies;
- reviewing with management and our auditors any earnings announcements and other public announcements regarding material developments;
- reviewing and approving the selection and activities, organization structure and qualifications of any internal audit function;
- establishing procedures for the receipt, retention and treatment of complaints received by us regarding financial controls, accounting or auditing matters and other matters;
- preparing the report that the SEC requires in our annual proxy statement;

- reviewing and providing oversight of any related person transactions in accordance with our related person transaction policy and reviewing and monitoring compliance with legal and regulatory responsibilities, including our code of ethics;
- reviewing our major financial risk exposures, including the guidelines and policies to govern the process by which risk assessment and risk management is implemented;
- reviewing on a periodic basis our cash investment policy;
- reviewing and implementing our cybersecurity policies; and
- reviewing and evaluating on an annual basis the performance of the audit committee and the audit committee charter.

We believe that the composition and functioning of our audit committee complies with all applicable requirements of the Sarbanes-Oxley Act and all applicable SEC rules and regulations.

Compensation Committee

Our compensation committee consists of Messrs. Pelowski, Srinivasan and Swahn. Mr. Pelowski serves as the chair of our compensation committee. Our board of directors has determined that each of the members of our compensation committee is a non-employee director, as defined in Rule 16b-3 promulgated under the Exchange Act, is an outside director, as defined pursuant to Section 162(m) of the Internal Revenue Code of 1986, as amended, or the Code, and satisfies the independence requirements. The functions of this committee include, among other things:

- reviewing and approving the corporate objectives that pertain to the determination of executive compensation;
- reviewing the compensation and other terms of employment of our executive officers;
- evaluating the competitiveness of our overall compensation plan;
- reviewing and approving performance goals and objectives relevant to the compensation of our executive officers and assessing their performance against these goals and objectives;
- making recommendations to our board of directors regarding the adoption or amendment of equity and cash incentive plans;
- reviewing and recommending to our board of directors the type and amount of compensation to be paid or awarded to our non-employee board members;
- reviewing and assessing the independence of compensation consultants, legal counsel and other advisors as required by Section 10C of the Exchange Act;
- administering our equity incentive plans;
- reviewing the terms of any employment agreements, severance arrangements, change in control protections, indemnification agreements and any other material arrangements for our executive officers and recommending the same to our board of directors for approval;
- reviewing with management our disclosures under the caption “Compensation Discussion and Analysis” in our periodic reports or proxy statements to be filed with the SEC, to the extent such caption is included in any such report or proxy statement;
- preparing an annual report on executive compensation that the SEC requires in our annual proxy statement; and
- reviewing and evaluating on an annual basis the performance of the compensation committee and recommending such changes as deemed necessary with our board of directors.

We believe that the composition and functioning of our compensation committee complies with all applicable requirements of the Sarbanes-Oxley Act, and all applicable SEC and NYSE rules and regulations.

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee consists of Messrs. Akhanov, Bastani and Tan. Our board of directors has determined that each of the members of this committee satisfies the NYSE independence requirements. Mr. Tan serves as the chair of our nominating and corporate governance committee. The functions of this committee include, among other things:

- identifying, evaluating and recommending to our Board of Directors of candidates to be nominated to serve on our board of directors, including as to incumbent directors standing for re-election and recommendations submitted by our stockholders;
- evaluating the performance of our board of directors, committees of our board of directors, and individual directors and determining whether continued service on our board is appropriate;
- evaluating nominations by stockholders of candidates for election to our board of directors;
- evaluating the current size, composition and organization of our board of directors and its committees and making recommendations to our board of directors for approvals;
- developing a set of corporate governance policies and principles and recommending to our board of directors any changes to such policies and principles;
- reviewing issues and developments related to corporate governance and identifying and bringing to the attention of our board of directors current and emerging corporate governance trends; and
- reviewing periodically the nominating and corporate governance committee charter, structure, membership requirements and recommending any proposed changes to our board of directors; including undertaking an annual review of its own performance.

We believe that the composition and functioning of our nominating and corporate governance committee complies with all applicable requirements of the Sarbanes-Oxley Act, and all applicable SEC and NYSE rules and regulations.

Lead Independent Director

Mr. Tan has served as our lead independent director since October 2016. Among other responsibilities, Mr. Tan presides at meetings of our independent directors.

Compensation Committee Interlocks and Insider Participation

None of the members of our compensation committee has ever been an executive officer or employee of ours. None of our executive officers currently serves, or has served during the last completed fiscal year, on the compensation committee or board of directors of any other entity that has one or more executive officers serving as a member of our board of directors or compensation committee.

Limitation on Liability and Indemnification of Directors and Officers

Our amended and restated certificate of incorporation, which will be effective immediately prior to the closing of this offering, limits our directors' liability to the fullest extent permitted under Delaware corporate law. Delaware corporate law provides that directors of a corporation will not be personally liable for monetary damages for breach of their fiduciary duties as directors, except for liability:

- for any transaction from which the director derives an improper personal benefit;
- for any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- under Section 174 of the Delaware General Corporation Law (unlawful payment of dividends or redemption of shares); or
- for any breach of a director's duty of loyalty to the corporation or its stockholders.

If the Delaware General Corporation Law is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of our directors shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law, as so amended.

Delaware law and our amended and restated bylaws provide that we will, in certain situations, indemnify our directors and officers and may indemnify other employees and other agents, to the fullest extent permitted by law. Any indemnified person is also entitled, subject to certain limitations, to advancement, direct payment or reimbursement of reasonable expenses (including attorneys' fees and disbursements) in advance of the final disposition of the proceeding.

In addition, we have entered, and intend to continue to enter, into separate indemnification agreements with our directors and officers. These agreements, among other things, require us to indemnify our directors and officers for certain expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or officer in any action or proceeding arising out of their services as one of our directors or officers or any other company or enterprise to which the person provides services at our request.

We maintain a directors' and officers' insurance policy pursuant to which our directors and officers are insured against liability for actions taken in their capacities as directors and officers. We believe that these provisions in our amended and restated certificate of incorporation and amended bylaws and these indemnification agreements are necessary to attract and retain qualified persons as directors and officers.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or control persons, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Code of Business Conduct and Ethics for Employees, Executive Officers and Directors

We have adopted a Code of Business Conduct and Ethics, or the Code of Conduct, applicable to all of our employees, executive officers and directors. The Code of Conduct will be available on our website at *www.aquantia.com*. The nominating and corporate governance committee of our board of directors is responsible for overseeing the Code of Conduct and must approve any waivers of the Code of Conduct for employees, executive officers and directors. We expect that any amendments to the Code of Conduct, or any waivers of its requirements, will be disclosed on our website.

Non-Employee Director Compensation

In June 2015, our board of directors granted Mr. Swahn an option to purchase 5,000 shares at an exercise price of $2.60 per share, which vested in full on December 17, 2015 and, in November 2015, our board of directors granted Mr. Swahn an option to purchase 8,000 shares of our common stock at an exercise price of $4.40 per share, with 2,000 shares vesting on each anniversary of the date of grant, subject to his continuous service on each such date.

The following table sets forth information regarding compensation earned by or paid to our non-employee directors during the year ended December 31, 2016:

Name	Fees Earned or Paid inCash ($)	Stock Awards($)[1]	Option Awards ($)	Total ($)
Dmitry Akhanov	—	—	—	—
Forest Baskett [2]	—	—	—	—
Bami Bastani	—	—	—	—
Ken Pelowski	—	—	—	—
Sam Srinivasan	45,000	—	—	45,000
Anders Swahn	40,000	—	—	40,000
Lip-Bu Tan	—	—	—	—

(1) The amounts reported do not reflect the amounts actually received by our non-employee directors. Instead, these amounts reflect the aggregate grant date fair value of each stock option granted to our non-employee directors during the fiscal year ended December 31, 2016, as computed in accordance with FASB ASC 718. Assumptions used in the calculation of these amounts are included in Note 13 to our audited financial statements included in this prospectus. As required by SEC rules, the amounts shown exclude the impact of estimated forfeitures related to service-based vesting conditions. Our non-employee directors who have received options will only realize compensation with regard to these options to the extent the trading price of our common stock is greater than the exercise price of such options.

(2) Dr. Baskett was a former member of our board of directors who resigned in August 2017.

Director Compensation Program Our board of directors has adopted a director compensation policy, effective January 1, 2016, that provides annual retainer fees of $35,000 to independent and unaffiliated members of our board of directors and for committee memberships as follows: $5,000 for committee membership and $10,000 for the Chairman of our audit committee. In addition, the independent and unaffiliated members of our board of directors will each be granted a nonqualified stock option on the first business day following each of our regularly scheduled annual meetings of stockholders starting in 2017, which has an estimated fair value of $30,000 on the date of grant, calculated using our most recent 409A valuation of our common stock, provided the director has served on our board of directors for at least six months. These options will vest on the first anniversary of the date of grant or immediately prior to our next annual meeting of stockholders, if earlier.

Our board of directors has adopted a revised director compensation policy, effective following the closing of this offering, that provides annual retainer fees of $35,000 to non-employee directors. Director serving as our lead independent director will receive an additional annual retainer fees of $20,000. Directors serving on our committees will receive an additional annual retainer as follows: $7,500 for membership on the audit committee, $5,000 for membership on the compensation committee and $5,000 for membership on the nominating and corporate governance committee and in lieu of the membership annual retainer, $15,000 for the Chairman of our audit committee, $10,000 for the Chairman of our compensation committee and $7,500 for the Chairman of our nominating and corporate governance committee. The annual cash compensation amounts will be payable in equal quarterly installments, in arrears following the end of each quarter in which the service occurred, pro-rated for any partial months of service. In addition, at the close of business on the date of each annual meeting of our stockholders following the closing of this offering, each non-employee director will receive an annual restricted stock unit award grant under our 2017 Plan, as defined below, having an equity value of $60,000 determined based on the fair market value per share on the grant date (as defined in the 2017 Plan), which will vest monthly over a period of 12 months based on a director's continued service on our board.

Executive Compensation

EXECUTIVE COMPENSATION Our named executive officers for the year ended December 31, 2016, which consists of our principal executive officer, principal financial and accounting officer and our two other most highly compensated executive officers, are:

- Faraj Aalaei, our Chairman, President and Chief Executive Officer;
- Mark Voll, our Chief Financial Officer
- Kamal Dalmia, our Senior Vice President, Sales and Marketing; and
- Ramin Shirani, our Senior Vice President, Engineering.

Summary Compensation Table for Fiscal Year 2016

Name and Principal Position	Year	Salary ($)	Bonus ($)	Option Awards($) (1)	Non-Equity IncentivePlanCompensation($) (2)	Total ($)
Faraj Aalaei	2016	450,000	42,000 (3)	–	139,500	631,500
Chairman, President and, Chief Executive Officer	2015	450,000	–	725,716	161,250	1,336,966
Mark Voll	2016	293,269 (4)	–	132,855	63,316	489,440
Chief Financial Officer						
Kamal Dalmia	2016	299,205	–	–	64,319	363,524
Senior Vice President, Sales and Marketing	2015	285,000	–	149,750	107,500	542,250
Ramin Shirani	2016	301,600	–	–	65,447	367,047
Senior Vice President, Engineering	2015	290,000	–	188,377	77,938	556,315

(1) The amounts in this column reflect the aggregate grant date fair value of the option awards granted during the year, computed in accordance with Financial Accounting Standard Board Accounting Standards Codification, or ASC, Topic 718 for stock-based compensation transactions. Unlike the calculations contained in our audited financial statements, this calculation does not give effect to any estimate of forfeitures related to service-based vesting, but assumes that the named executive officer will perform the requisite service for the award to vest in full. Assumptions used in the calculation of these amounts are included in Note 13 to our audited financial statements included elsewhere in this prospectus. These amounts do not reflect the actual economic value that will be realized by the named executive officer upon the vesting of the stock options, the exercise of the stock options or the sale of the common stock underlying such stock options.

(2) The amounts in this column reflect the bonuses earned by our named executive officers in the year under our executive officer bonus plan, which amounts were paid in the following year. The amounts of such bonuses were determined based on the achievement of specified corporate performance goals and other factors deemed relevant by the compensation committee of our board of directors, as described under "—Narrative to Summary Compensation Table—2016 Executive Bonus Plan" below.

(3) Represents the amount of accrued interest on outstanding promissory notes then owed by Mr. Aalaei to the Company that was forgiven in 2016 in lieu of a bonus payment to Mr. Aalaei in 2016.

(4) Mr. Voll joined the Company in January 2016. This amount represents a prorated portion of his annual base salary for 2016, which was $300,000.

Narrative to Summary Compensation Table

We review compensation annually for all employees, including our executives. In setting executive base salaries and bonuses and granting equity incentive awards, we consider compensation for comparable positions in the market, the historical compensation levels of our executives, individual performance compared to our expectations and objectives, our desire to motivate our employees to achieve short- and long-term results that are in the best interests of our stockholders, and a long-term commitment to our company. We do not target a specific competitive position or a specific mix of compensation among base salary, bonus or long-term incentives.

Our board of directors has historically determined our executives' compensation. Our compensation committee typically reviews and discusses management's proposed compensation with our chief executive officer for all executives other than our chief executive officer. Based on those discussions and its discretion, the compensation committee then recommends the compensation for each executive officer. Our board of directors, without members of management present, discusses the compensation committee's recommendations and ultimately approves the compensation of our executive officers.

2016 Annual Base Salary and Bonus Targets

The following table presents the base salaries and bonus targets for each of our named executive officers for 2016:

Name	2016 Base Salary ($)	Bonus Targets($)
Faraj Aalaei	450,000	225,000
Mark Voll	300,000	105,000
Kamal Dalmia	296,400	103,740
Ramin Shirani	310,600	105,560

Equity-Based Incentive Awards

Our equity-based incentive awards are designed to align our interests with those of our employees, including our named executive officers. Our board of directors is currently responsible for approving equity grants and generally makes its decisions based on the recommendations of the compensation committee of our board of directors. Vesting of equity awards is generally tied to continuous service with us and serves as an additional retention measure. Our executive officers generally are awarded an initial new hire grant upon commencement of employment. Additional grants may occur periodically in order to specifically incentivize executives with respect to achieving certain corporate goals or to reward executives for exceptional performance.

All outstanding equity awards held by our current employees, consultants and directors were granted pursuant to the Aquantia Corp. 2004 Plan, or the 2004 Plan, and the Aquantia Corp. 2015 Plan, or the 2015 Plan, the terms of which are described below under "—Equity Incentive Plans." All options are granted with a per share exercise price equal to no less than the fair market value of a share of our common stock on the date of the grant of such award. Generally, our stock option awards vest over a four-year period subject to the holder's continuous service to us and may be granted with an early exercise feature.

Each of our named executive officers received option grants in 2016 as described in more detail below under "—Outstanding Equity Awards at 2016 Fiscal Year-End."

2016 Executive Bonus Plan

Our named executive officers participated in our 2016 Executive Bonus Plan, which is intended to motivate and reward our executives for achievements relative to our goals and expectations for the 2016 fiscal year. Each named executive officer has a target bonus opportunity for the amount set forth in the table above. For 2016 fiscal year, 30% of each named executive officer's target bonus opportunity is based on 2016 sales revenue achievement. 25% of each named executive officer's target bonus opportunity is based on incentive gross margin achievement. 25% of each named executive officer's target bonus opportunity is based on the achievement of certain thresholds related to EBITDA. 20% of each named executive officer's target bonus opportunity is based on individual performance goals. The sales revenue portion, gross margin portion and EBITDA portion of each named executive officer's target bonus opportunity will be earned by and paid to a participant in the 2016 Executive Bonus Plan only when the actual sales revenue, gross margin and EBITDA is equal to or above 100%, 96% and 90% of the target annual revenue, gross margin and EBITDA, targets that were set at the beginning of the 2016 fiscal year, respectively. The amounts of bonuses earned by our named executive officers for the 2016 fiscal year are set forth in the table titled "Summary Compensation Table for Fiscal Year 2016" above.

Agreements with Our Named Executive Officers

Below are descriptions of our employment agreements and offer letter agreements with our named executive officers. The agreements generally provide for at-will employment and set forth the named executive officer's initial base salary, eligibility for employee benefits and severance benefits upon a qualifying termination of employment. Furthermore, each of our named executive officers has executed a form of our standard proprietary information and inventions assignment agreement.

Agreements with Mr. Aalaei

On June 22, 2011, we entered into an amended and restated employment agreement with Mr. Aalaei, our President and Chief Executive Officer, referred to herein as the 2011 employment agreement, which superseded and replaced Mr. Aalaei's previous employment agreement. Under the terms of the 2011 employment agreement, we agreed to pay Mr. Aalaei an initial annual base salary of $350,000. The agreement also provided for an initial annual performance bonus of up to $100,000, based on the assessment by our board of directors of Mr. Aalaei's performance and the attainment of annual targeted company goals set forth by our board of directors in their sole discretion. In addition, Mr. Aalaei's 2011 employment agreement provided that, unless requested by Mr. Aalaei prior to a future date of grant, all options granted to Mr. Aalaei following the date of the 2011 employment agreement would be early exercisable and would vest in equal installments over four years from the date of grant, subject to Mr. Aalaei's continued service with us through each vesting date, and would vest in-full upon a change of control, subject to Mr. Aalaei's continued service with us through the effective date of such change in control.

On April 21, 2016, we entered into an amended and restated employment agreement with Mr. Aalaei, referred to herein as the 2016 employment agreement, which superseded and replaced the 2011 employment agreement. Under the terms of the 2016 employment agreement, we agreed to pay Mr. Aalaei an initial annual base salary of $450,000, which reflects Mr. Aalaei's current base salary. The agreement also provides for an initial annual performance bonus equal to 50% of his current base salary, based on the assessment by our board of directors of Mr. Aalaei's performance and the attainment of annual targeted company goals set forth by our board of directors in their sole discretion. In addition, the 2016 employment agreement provides that all equity awards granted to Mr. Aalaei following the date of the 2016 employment agreement will be, in the case of options, early exercisable unless otherwise requested by Mr. Aalaei prior to a future date of grant, and will vest in equal installments over four years from the date of grant, subject to Mr. Aalaei's continued service with us through each vesting date, and will vest in-full upon a change of control, subject to Mr. Aalaei's continued service with us through the effective date of such change in control.

Agreement with Mr. Voll

On January 11, 2016, we entered into an offer letter with Mr. Voll, our Chief Financial Officer. Under Mr. Voll's agreement, we agreed to pay Mr. Voll an initial annual base salary of $300,000 a year. The agreement also provided for an initial annual performance bonus of up to 35% of his base salary, or $105,000, based on the assessment by our board of directors of Mr. Voll's performance and the attainment of certain annual targeted company goals set forth by our board of directors in their sole discretion, and subject to Mr. Voll's employment through the payment date. Pursuant to the agreement, Mr. Voll was granted an initial option to purchase 85,000 shares of our common stock on April 21, 2016 that vests over a four-year period subject to Mr. Voll's continued service with us.

Agreement with Mr. Dalmia

On December 2, 2009, we entered into an offer letter with Mr. Dalmia, our Senior Vice President of Sales and Marketing. Under Mr. Dalmia's agreement, we agreed to pay Mr. Dalmia an initial annual base salary of $250,000 a year. The agreement also provided for an initial annual performance bonus of up to $80,000, based on the assessment by our board of directors of Mr. Dalmia's performance and the attainment of certain annual targeted company goals set forth by our board of directors in their sole discretion, and subject to Mr. Dalmia's employment through the payment date. Pursuant to the agreement, Mr. Dalmia was granted an initial option to purchase 50,000 shares of our common stock on February 23, 2010 that vested over a four-year period subject to Mr. Dalmia's continued service with us.

Agreement with Mr. Shirani

On November 30, 2004, we entered into an offer letter agreement with Mr. Shirani, our Senior Vice President of Engineering, setting forth the initial terms of his employment. Pursuant to the agreement, Mr. Shirani was entitled to an initial annual base salary of $100,000. Pursuant to the agreement, Mr. Shirani was granted an initial option to purchase 150,000 shares of our common stock on December 20, 2004 that vested over a four-year period subject to Mr. Shirani's continued service with us.

Potential Payments upon Termination or Change of Control

We believe that reasonable severance benefits for our named executive officers are important because it may be difficult for them to find comparable employment within a short period of time. We also believe that it is important to protect our named executive officers in the event of a change of control transaction involving our company, as a result of which such officers might have their employment

terminated. In addition, we believe that the interests of management should be aligned with those of our stockholders as much as possible, and we believe that providing protection upon a change of control is an appropriate counter to any disincentive such officers might otherwise perceive in regard to transactions that may be in the best interest of our stockholders.

Mr. Aalaei. The 2016 employment agreement provides that, in the event Mr. Aalaei is involuntarily terminated by us without cause or he resigns for good reason, Mr. Aalaei will be entitled to receive (1) an amount equal to 18 months of his then current base salary, ignoring any decrease in base salary that forms the basis for good reason, less all applicable withholdings and deductions and (2) the acceleration of the vesting of each of his then outstanding unvested stock awards as of the date of his termination as to the number of shares that would have vested if Mr. Aalaei had been in service for an additional 18 months. In addition, to the extent that Mr. Aalaei timely elects COBRA coverage under our health plans, we will pay or reimburse Mr. Aalaei for the cost of his COBRA premiums for a period of up to 18 months commencing on the first date on which Mr. Aalaei loses health care coverage. Our obligation to pay or reimburse Mr. Aalaei's COBRA premiums will cease immediately in the event that Mr. Aalaei either becomes eligible for group health insurance or ceases to be eligible for COBRA coverage. In the event that the payment of Mr. Aalaei's COBRA premiums would violate applicable law, we will instead pay Mr. Aalaei on the last day of each remaining month of the COBRA payment period, a taxable cash amount that, on an after-tax basis, is sufficient to obtain the same or equivalent coverage with a gross-up for taxes, for the remainder of the COBRA payment period, regardless of whether Mr. Aalaei obtains alternative health coverage.

Mr. Aalaei's severance benefits are conditioned on his execution of an effective release and waiver of claims no later than the 60th day following his separation from service and continuing to comply with his obligations under his proprietary information and inventions assignment agreement, and any similar agreement, and his resignation from our board of directors.

The 2016 employment agreement contains a "better after-tax" provision, which provides that, if any of the payments to Mr. Aalaei constitutes a parachute payment under Section 280G of the Code, the payments will either be (1) reduced or (2) provided in full to Mr. Aalaei, whichever results in Mr. Aalaei receiving the greater amount after taking into consideration the payment of all taxes, including the excise tax under Section 4999 of the Code, in each case based upon the highest marginal rate for the applicable tax.

Each of Mr. Aalaei's stock options to purchase shares of our common stock, which have been granted to date, provide that in the event Mr. Aalaei's is employed by us through the effective date of a change in control, 100% of the unvested shares subject to such option will become vested and exercisable upon the date of his termination.

Mr. Voll. Mr. Voll's employment agreement provides that, in the event Mr. Voll is involuntarily terminated by us without cause, he will be entitled to receive an amount equal to 12 months of his then-current base salary.

Mr. Voll's employment agreement also provides that, in the event Mr. Voll is involuntarily terminated by us without cause or he resigns for good reason within 18 months after a change in control, he will be entitled to receive (1) an amount equal to 12 months of his current base salary, (2) the acceleration of the vesting of each of his then-outstanding unvested stock awards as of the date of his termination and (3) 12 months of COBRA benefits starting from his termination date. Mr. Voll's severance benefits are conditioned on his execution of an effective release and waiver of claims no later than the 45th day following his separation from service and continuing to comply with his obligations under his offer letter agreement and his proprietary information and inventions assignment agreement.

Mr. Dalmia. Mr. Dalmia's employment agreement provides that, in the event Mr. Dalmia is involuntarily terminated by us without cause, he will be entitled to receive an amount equal to 12 months of his then-current base salary.

Mr. Dalmia's employment agreement also provides that, in the event Mr. Dalmia is involuntarily terminated by us without cause within 18 months after a change in control, he will be entitled to receive (1) an amount equal to 12 months of his current base salary plus his current annual bonus and (2) the acceleration of the vesting of each of his then-outstanding unvested stock awards as of the date of his termination as to the number of shares that would have vested if Mr. Dalmia had been in service for an additional 12 months. Mr. Dalmia's severance benefits are conditioned on his execution of an effective release and waiver of claims no later than the 45th day following his separation from service and continuing to comply with his obligations under his offer letter agreement and his proprietary information and inventions assignment agreement.

Outstanding Equity Awards at 2016 Fiscal Year-End

The following table sets forth certain information regarding equity awards granted to our named executive officers that remain outstanding as of December 31, 2016.

	Option Awards[1]			
	Number of Securities UnderlyingUnexercised Options (#)		Option ExercisePrice PerShare ($)	Option Expiration Date
Grant Date	Exercisable[2]	Unexercisable[3]		

Faraj Aalaei[4]	6/17/2015	158,012	103,525	[5]	2.60	6/16/2025
	11/13/2015	–	211,666	[6]	4.40	11/12/2025
Mark Voll[7]	4/12/2016	–	85,000	[8]	4.40	4/20/2026
Kamal Dalmia[9]	5/19/2014	6,000	–		2.00	5/18/2024
	6/17/2015	36,249	23,750	[10]	2.60	6/16/2025
	9/23/2015	–	50,000	[11]	3.90	9/22/2025
Ramin Shirani[12]	9/23/2015	–	80,000	[13]	3.90	9/22/2025
	6/17/2015	–	–	[14]	2.60	6/16/2025

(1) All of the option awards granted prior to October 2014 were granted under the 2004 Plan and all remaining grants were granted under the 2015 Plan. The terms of each such plan are described below under "Equity Incentive Plans." All of the option awards were granted with a per share exercise price equal to the fair market value of one share of our common stock on the date of grant, as determined in good faith by our board of directors.

(2) All of the option awards reflected in this column are early exercisable (a) in the case of Mr. Aalaei, immediately and (b) in the case of Messrs. Dalmia, Shirani and Voll, six months from the date of grant, and in each case, any shares held pursuant to an early exercise are subject to a repurchase right in our favor that lapses on the same schedule as that of the stock option's vesting schedule. This column reflects the number of options held by our named executive officers that were vested, as of December 31, 2016

(3) All of the option awards reflected in this column are early exercisable six months from the date of grant, subject to a repurchase right in our favor that lapses on the same schedule as that of the stock option's vesting schedule. This column reflects the number of options held

by our named executive officers that were unvested, as of December 31, 2016. There are no options in this table that are not early exercisable.

(4) In the event Mr. Aalaei is involuntarily terminated by the company without cause, or Mr. Aalaei resigns for good reason, the unvested shares as of the date of his termination will accelerate and vest as to the number of shares that would have vested if Mr. Aalaei had been in service for an additional 18 months. In the event Mr. Aalaei remains employed through a change in control, all of his unvested shares will vest.

(5) The unvested shares underlying this option vest in equal monthly installments through July 1, 2018, subject to the officer's continued service through each applicable vesting date.

(6) The unvested shares underlying this option vest as to 25% of the shares on January 1, 2017, with the remainder vesting in 36 equal monthly installments thereafter, subject to the officer's continued service through each applicable vesting date.

(7) In the event Mr. Voll is involuntarily terminated by the company without cause within 18 months after a change in control, the number of unvested shares as of the date of his termination will accelerate and vest as to the number of shares that would have vested if Mr. Voll had been in service for an additional 12 months.

(8) The unvested shares underlying this option vest as to 25% of the shares on January 11, 2017, with the remainder vesting in 36 equal monthly installments thereafter, subject to the officer's continued service through each applicable vesting date.

(9) In the event Mr. Dalmia is involuntarily terminated by the company without cause within 18 months after a change in control, the number of unvested shares as of the date of his termination will accelerate and vest as to the number of shares that would have vested if Mr. Dalmia had been in service for an additional 12 months.

(10) The unvested shares underlying this option vest in equal monthly installments through July 1, 2018, subject to the officer's continued service through each applicable vesting date.

(11) The unvested shares underlying this option vest as to 25% of the shares on January 1, 2017, with the remainder vesting in 36 equal monthly installments thereafter, subject to the officer's continued service through each applicable vesting date.

(12) In the event Mr. Shirani is terminated without cause within 12 months following a change in control, all of the unvested shares subject to this option will vest.

(13) The unvested shares underlying this option vest as to 25% of the shares on January 1, 2017, with the remainder vesting in 36 equal monthly installments thereafter, subject to the officer's continued service through each applicable vesting date.

(14) On January 29, 2016, Mr. Shirani early exercised his option to purchase 50,000 shares, 19,791 of which remained unvested as of December 31, 2016. The unvested shares vest in equal monthly installments through July 1, 2018, subject to the officer's continued service through each applicable vesting date.

Health, Welfare, Retirement Benefits and Perquisites

All of our current named executive officers are eligible to participate in our employee benefit plans, including our medical, dental and vision insurance plans, in each case on the same basis as all of our other employees. We provide a 401(k) plan to our employees, including our current named executive officers, as discussed in the section titled "–401(k) Plan" below.

We generally do not provide perquisites or personal benefits to our named executive officers, except in limited circumstances.

Nonqualified Deferred Compensation

None of our named executive officers participate in or have account balances in nonqualified defined contribution plans or other nonqualified deferred compensation plans maintained by us. Our board of directors may elect to provide our officers and other employees with nonqualified defined contribution or other nonqualified deferred compensation benefits in the future if it determines that doing so is in our best interests.

401(k) Plan

We sponsor a qualified retirement plan that is intended to qualify for favorable tax treatment under Section 401(a) of the Code, and contains a cash or deferred feature that is intended to meet the requirements of Section 401(k) of the Code. Participants may make pre-tax and certain after-tax (Roth) salary deferral contributions to the plan from their eligible earnings up to the statutorily prescribed annual limit under the Code. Participants who are 50 years of age or older may contribute additional amounts based on the statutory limits for catch-up contributions. Participant contributions are held in trust as required by law. No minimum benefit is provided under the plan. An employee's interest in his or her salary deferral contributions is 100% vested when contributed. We have the ability to make discretionary contributions under the plan but have not done so to date.

Equity Incentive Plans

2017 Equity Incentive Plan

Our board of directors adopted the 2017 Equity Incentive Plan, or the 2017 Plan, in September 2017 and our stockholders approved the 2017 Plan in October 2017 as the successor to the 2015 Plan, as described below, effective upon the execution and delivery of the underwriting agreement related to this offering.

Stock Awards. The 2017 Plan provides for the grant of incentive stock options, or ISOs, nonstatutory stock options, or NSOs, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance-based stock awards, and other stock awards, or collectively, stock awards and performance cash awards. ISOs may be granted only to our employees, including officers, and the employees of our affiliates. All other awards and performance cash awards may be granted to our employees, including officers, non-employee directors and consultants and the employees and consultants of our affiliates.

Share Reserve. Initially, the aggregate number of shares of our common stock that may be issued pursuant to stock awards under the 2017 Plan after the 2017 Plan becomes effective is the sum of (1) shares of our common stock, plus (2) any shares subject to outstanding stock options or other stock awards that were granted under the 2015 Plan and 2004 Plan that are forfeited, terminate, expire or are otherwise not issued, or the Share Reserve. Additionally, the number of shares of our common stock reserved for issuance under the 2017 Plan will automatically increase on the first day of each calendar year, beginning on January 1 of the calendar year following the calendar year in which the 2017 Plan becomes effective and ending on January 1, 2027 in an amount equal to 5% of the total number of shares of our capital stock outstanding on the last day of the calendar month before the date of the automatic increase, or a lesser number of shares determined by our board of directors, to the extent that less than 5% of the total number of shares of our capital stock outstanding on such date are then available for issuance under the 2017 Plan.

If a stock award granted under the 2017 Plan expires or otherwise terminates without being exercised in full, or is settled in cash, the shares of our common stock not acquired pursuant to the stock award again will become available for subsequent issuance under the 2017 Plan. In addition, the following types of shares of our common stock under the 2017 Plan may become available for the grant of new stock awards under the 2017 Plan: (1) shares that are forfeited to or repurchased by us prior to becoming fully vested; (2) shares withheld to satisfy income or employment withholding taxes; or (3) shares used to pay the exercise or purchase price of a stock award. Shares issued under the 2017 Plan may be previously unissued shares or reacquired shares bought by us on the open market. No awards have been granted under the 2017 Plan.

Incentive Stock Option Limit. The maximum number of shares of our common stock that may be issued upon the exercise of ISOs under the 2017 Plan is three times the Share Reserve.

Section 162(m) Limits. At such time as necessary for compliance with Section 162(m) of the Code, no person may be granted stock awards covering more than shares of our common stock under the 2017 Plan during any calendar year pursuant to stock options, stock appreciation rights and other stock awards whose value is determined by reference to an increase over an exercise or strike price of at least 100% of the fair market value on the date the stock award is granted. Additionally, no person may be granted in a calendar year a performance stock award covering more than shares of our common stock or a performance cash award having a maximum value in excess of $. The limitations are designed to allow us to grant compensation that will not be subject to the $1,000,000 limitation on the income tax deductibility of compensation paid to any covered executive officer imposed by Section 162(m) of the Code.

Non-Employee Director Limit. The maximum number of shares subject to awards granted during a single fiscal year to any non-employee director under the 2017 Plan, taken together with any cash fees paid to such non-employee director during the fiscal year, shall not exceed $500,000 in total value (calculating the value of any such awards based on the grant date fair value of such awards for financial reporting purposes).

Administration. Our board of directors, or a duly authorized committee thereof, has the authority to administer the 2017 Plan. Our board of directors may also delegate to one or more of our officers the authority to (1) designate employees (other than other officers) to be recipients of certain stock awards, and (2) determine the number of shares of common stock to be subject to such stock awards. Subject to the terms of the 2017 Plan, our board of directors or the authorized committee, referred to herein as the 2017 Plan administrator, determines recipients, dates of grant, the numbers and types of stock awards to be granted and the terms and conditions of the stock awards, including the period of their exercisability and vesting schedule applicable to a stock award. Subject to the limitations set forth below, the 2017 Plan administrator will also determine the exercise price or purchase price of awards granted and the types of consideration to be paid for the award.

Repricing; Cancellation and Re-Grant of Stock Awards. The 2017 Plan administrator has the authority to modify outstanding awards under the 2017 Plan. Subject to the terms of the 2017 Plan, the 2017 Plan administrator has the authority to reduce the exercise, purchase or strike price of any outstanding stock award, cancel any outstanding stock award in exchange for new stock awards, cash or other consideration, or take any other action that is treated as a repricing under generally accepted accounting principles, with the consent of any adversely affected participant.

Stock Options. ISOs and NSOs are granted pursuant to stock option agreements adopted by the 2017 Plan administrator. The 2017 Plan administrator determines the exercise price for a stock option, within the terms and conditions of the 2017 Plan, provided that the exercise price of a stock option generally cannot be less than 100% of the fair market value of our common stock on the date of grant. Options granted under the 2017 Plan vest at the rate specified by the 2017 Plan administrator.

The 2017 Plan administrator determines the term of stock options granted under the 2017 Plan, up to a maximum of ten years. Unless the terms of an optionholder's stock option agreement provide otherwise, if an optionholder's service relationship with us, or any of our affiliates, ceases for any reason other than disability, death or cause, the optionholder may generally exercise any vested options for a period of three months following the cessation of service. The option term may be extended in the event that the exercise of the option following such a termination of service is prohibited by applicable securities laws or our insider trading policy. If an optionholder's service relationship with us or any of our affiliates ceases due to disability or death, or an optionholder dies within a certain period following cessation of service, the optionholder or a beneficiary may generally exercise any vested options for a period of 12 months in the event of disability and 12 months in the event of death. In the event of a termination for cause, options generally terminate immediately upon the termination of the individual for cause. In no event may an option be exercised beyond the expiration of its term.

Acceptable consideration for the purchase of common stock issued upon the exercise of a stock option will be determined by the 2017 Plan administrator and may include (1) cash, check, bank draft or money order, (2) a broker-assisted cashless exercise, (3) the tender of shares of our common stock previously owned by the optionholder, (4) a net exercise of the option if it is an NSO, and (5) other legal consideration approved by the 2017 Plan administrator.

Tax Limitations on Incentive Stock Options. The aggregate fair market value, determined at the time of grant, of our common stock with respect to ISOs that are exercisable for the first time by an optionholder during any calendar year under all of our stock plans may not exceed $100,000. Options or portions thereof that exceed such limit will generally be treated as NSOs. No ISO may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any of our affiliates unless (1) the option exercise price is at least 110% of the fair market value of the stock subject to the option on the date of grant, and (2) the term of the ISO does not exceed five years from the date of grant.

Restricted Stock Awards. Restricted stock awards are granted pursuant to restricted stock award agreements adopted by the 2017 Plan administrator. Restricted stock awards may be granted in consideration for (1) cash, check, bank draft or money order, (2) services rendered to us or our affiliates, or (3) any other form of legal consideration.

Common stock acquired under a restricted stock award may, but need not, be subject to a share repurchase option in our favor in accordance with a vesting schedule to be determined by the 2017 Plan administrator. A restricted stock award may be transferred only upon such terms and conditions as set by the 2017 Plan administrator. Except as otherwise provided in the applicable award agreement, restricted stock awards that have not vested may be forfeited or repurchased by us upon the participant's cessation of continuous service for any reason.

Restricted Stock Unit Awards. Restricted stock unit awards are granted pursuant to restricted stock unit award agreements adopted by the 2017 Plan administrator. Restricted stock unit awards may be granted in consideration for any form of legal consideration. A restricted stock unit award may be settled by cash, delivery of stock, a combination of cash and stock as deemed appropriate by the 2017 Plan administrator, or in any other form of consideration set forth in the restricted stock unit award agreement. Additionally, dividend equivalents may be credited in respect of shares covered by a restricted stock unit award. Except as otherwise provided in the applicable award agreement, restricted stock units that have not vested will be forfeited upon the participant's cessation of continuous service for any reason.

Stock Appreciation Rights. Stock appreciation rights are granted pursuant to stock appreciation grant agreements adopted by the 2017 Plan administrator. The 2017 Plan administrator determines the strike price for a stock appreciation right, which generally cannot be less than 100% of the fair market value of our common stock on the date of grant. Upon the exercise of a stock appreciation right, we will pay the participant an amount equal to the product of (1) the excess of the per share fair market value of our common stock on the date of exercise over the strike price, multiplied by (2) the number of shares of common stock with respect to which the stock appreciation right is exercised. A stock appreciation right granted under the 2017 Plan vests at the rate specified in the stock appreciation right agreement as determined by the 2017 Plan administrator.

The 2017 Plan administrator determines the term of stock appreciation rights granted under the 2017 Plan, up to a maximum of ten years. Unless the terms of a participant's stock appreciation right agreement provide otherwise, if a participant's service relationship with us or any of our affiliates ceases for any reason other than cause, disability or death, the participant may generally exercise any vested stock appreciation right for a period of three months following the cessation of service. The stock appreciation right term may be further extended in the event that exercise of the stock appreciation right following such a termination of service is prohibited by applicable securities laws. If a participant's service relationship with us, or any of our affiliates, ceases due to disability or death, or a participant dies within a certain period following cessation of service, the participant or a beneficiary may generally exercise any vested stock appreciation right for a period of 12 months in the event of disability and 12 months in the event of death. In the event of a termination for cause, stock appreciation rights generally terminate immediately upon the occurrence of the event giving rise to the termination of the individual for cause. In no event may a stock appreciation right be exercised beyond the expiration of its term.

Performance Awards. The 2017 Plan permits the grant of performance-based stock and cash awards that may qualify as performance-based compensation that is not subject to the $1,000,000 limitation on the income tax deductibility of compensation paid to a covered executive officer imposed by Section 162(m) of the Code. To help assure that the compensation attributable to performance-based awards will so qualify, our compensation committee can structure such awards so that stock or cash will be issued or paid pursuant to such award only after the achievement of certain pre-established performance goals during a designated performance period.

The performance goals that may be selected include one or more of the following: (1) earnings (including earnings per share and net earnings); (2) earnings before interest, taxes and depreciation; (3) earnings before interest, taxes, depreciation and amortization; (4) earnings before interest, taxes, depreciation, amortization and legal settlements; (5) earnings before interest, taxes, depreciation, amortization, legal settlements and other income (expense); (6) earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense) and stock-based compensation; (7) earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense), stock-based compensation and changes in deferred revenue; (8) total stockholder return; (9) return on equity or average stockholder's equity; (10) return on assets, investment, or capital employed; (11) stock price; (12) margin (including gross margin); (13) income (before or after taxes); (14) operating income; (15) operating income after taxes; (16) pre-tax profit; (17) operating cash flow; (18) sales or revenue targets; (19) increases in revenue; (20) expenses and cost reduction goals; (21) improvement in or attainment of working capital levels; (22) economic value added (or an equivalent metric); (23) market share; (24) cash flow; (25) cash flow per share; (26) share price performance; (27) debt reduction; (28) implementation or completion of projects or processes; (29) stockholders' equity; (30) capital expenditures; (31) debt levels; (32) operating profit or net operating profit; (33) workforce diversity; (34) growth of net income or operating income; (35) billings; (36) bookings; (37) employee retention; (38) strategic partnerships or transactions (including in-licensing and out-licensing of intellectual property; and (39) to the extent that an award is not intended to comply with Section 162(m) of the Code, other measures of performance selected by our board of directors.

The performance goals may be based on a company-wide basis, with respect to one or more business units, divisions, affiliates, or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise (A) in the award agreement at the time the award is granted or (B) in such other

document setting forth the performance goals at the time the goals are established, we will appropriately make adjustments in the method of calculating the attainment of performance goals as follows: (1) to exclude restructuring; (2) to exclude exchange rate effects; (3) to exclude the effects of changes to generally accepted accounting principles; (4) to exclude the effects of any statutory adjustments to corporate tax rates; (5) to exclude the dilutive effects of acquisitions or joint ventures; (6) to assume that any business divested by us achieved performance objectives at targeted levels during the balance of a performance period following such divestiture; (7) to exclude the effect of any change in the outstanding shares of our common stock by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (8) to exclude the effects of stock-based compensation and the award of bonuses under our bonus plans; (9) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under generally accepted accounting principles; (10) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles; (11) to exclude the effect of items that are "unusual" in nature or occur "infrequently" as determined under generally accepted accounting principles; or (12) to exclude the effects of entering into or achieving milestones involved in license arrangements. In addition, we retain the discretion to reduce or eliminate the compensation or economic benefit due upon attainment of the performance goals and to define the manner of calculating the performance criteria we select to use for such performance period. The performance goals may differ from participant to participant and from award to award.

Other Stock Awards. The 2017 Plan administrator may grant other awards based in whole or in part by reference to our common stock. The 2017 Plan administrator will set the number of shares under the stock award and all other terms and conditions of such awards.

Changes to Capital Structure. In the event that there is a specified type of change in our capital structure, such as a stock split or recapitalization, appropriate adjustments will be made to (1) the class and maximum number of shares reserved for issuance under the 2017 Plan, (2) the class and maximum number of shares by which the share reserve may increase automatically each year, (3) the class and maximum number of shares that may be issued upon the exercise of ISOs, (4) the class and maximum number of shares subject to stock awards that can be granted in a calendar year (as established under the 2017 Plan pursuant to Section 162(m) of the Code), and (5) the class and number of shares and exercise price, strike price, or purchase price, if applicable, of all outstanding stock awards.

Transactions. The 2017 Plan provides that in the event of certain specified significant corporate transactions, unless otherwise provided in an award agreement or other written agreement between us and the award holder, the administrator may take one or more of the following actions with respect to such stock awards:

(1) arrange for the assumption, continuation or substitution of a stock award by a successor corporation, (2) arrange for the assignment of any reacquisition or repurchase rights held by us to a successor corporation, (3) accelerate the vesting, in whole or in part, of the stock award and provide for its termination prior to the transaction, (4) arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by us, (5) cancel or arrange for the cancellation of the stock award prior to the transaction in exchange for a cash payment, or no payment, as determined by the board or (6) make a payment, in the form determined by the board, equal to the excess, if any, of the per share amount (or value of property per share) payable to holders of our common stock in connection with the transaction over the per share exercise price under the applicable stock award, multiplied by the number of shares subject to the stock award. Any escrow, holdback, earnout or similar provisions in the definitive agreement for the transaction may apply to such payment to the same extent and in the same manner as the provisions apply to holders of our common stock. The plan administrator is not obligated to treat all stock awards or portions of stock awards, even those that are of the same type, in the same manner and is not obligated to treat all participants in the same manner.

Under the 2017 Plan, a transaction means a corporate transaction or a change in control. A corporate transaction is generally the consummation of (1) a sale or other disposition of all or substantially all of our consolidated assets, (2) a sale or other disposition of more than 50% of our outstanding securities, (3) a merger, consolidation or similar transaction following which we are not the surviving corporation, or (4) a merger, consolidation or similar transaction following which we are the surviving corporation but the shares of our common stock outstanding immediately prior to such transaction are converted or exchanged into other property by virtue of the transaction. Under the 2017 Plan, a change in control is generally (1) the acquisition by a person or entity of more than 50% of our combined voting power other than by merger, consolidation or similar transaction; (2) a consummated merger, consolidation or similar transaction immediately after which our stockholders cease to own more than 50% of the combined voting power of the surviving entity; (3) a consummated sale, lease or exclusive license or other disposition of all or substantially all of our consolidated assets other than to an entity more than 50% of the combined voting power of which is owned by our stockholders; or (4) an unapproved change in the majority of the board.

Change in Control. In the event of a change in control, awards granted under the 2017 Plan will not receive automatic acceleration of vesting and exercisability, although this treatment may be provided for in a stock award agreement.

Transferability. A participant generally may not transfer stock awards under the 2017 Plan other than by will, the laws of descent and distribution, or as otherwise provided under the 2017 Plan.

Amendment and Termination. Our board of directors has the authority to amend, suspend, or terminate the 2017 Plan, provided that, with certain exceptions, such action does not materially impair the existing rights of any participant without such participant's written consent. Certain material amendments also require the approval of our stockholders. No ISOs may be granted after the tenth anniversary of the date our board of directors adopted the 2017 Plan.

2015 Equity Incentive Plan

Our board of directors adopted the 2015 Equity Incentive Plan, or the 2015 Plan, in February 2015 and our stockholders approved the 2015 Plan in February 2015 as the successor to the 2004 Plan. Our board of directors amended the 2015 Plan in June and September 2015 and our stockholders approved such amendments in June and November 2015, respectively. The 2015 Plan will be replaced by the 2017 Plan upon the completion of this offering.

Stock Awards. The 2015 Plan provides for the grant of incentive stock options, or ISOs, nonstatutory stock options, or NSOs, stock appreciation rights, restricted stock awards, restricted stock unit awards, and other stock awards, or collectively, stock awards. ISOs may be granted only to our employees, including officers, and the employees of our affiliates. All other stock awards may be granted to our employees, including officers, non-employee directors and consultants and the employees and consultants of our affiliates.

Share Reserve. We previously reserved 8,085,665 shares of our common stock for issuance under the 2015 Plan. Upon the effectiveness of the 2017 Plan, no further stock awards may be granted under the 2015 Plan. Any awards granted under the 2015 Plan will remain subject to the terms of the 2015 Plan and applicable award agreements, until such outstanding awards that are stock options are exercised, or until they terminate or expire by their terms, and until any restricted stock awards become vested, terminate or are forfeited. Upon the effectiveness of the 2017 Plan, if a stock award granted under the 2015 Plan or the 2004 Plan, as described below, is forfeited back to us because of the failure to meet a contingency or condition required to vest, such shares will become available for subsequent issuance under the 2017 Plan. In addition, shares withheld to satisfy income or employment withholding taxes and shares used to pay the exercise price of a stock option will become available for the grant of new stock awards under the 2017 Plan. Shares issued under the 2015 Plan may be authorized but unissued or reacquired common stock, including shares repurchased by us on the open market.

Administration. Our board of directors, or a duly authorized committee thereof, has the authority to administer the 2015 Plan. Our board of directors may also delegate to one or more of our officers the authority to (1) designate employees (other than other officers) to be recipients of certain stock awards, and (2) determine the number of shares of common stock to be subject to such stock awards. Subject to the terms of the 2015 Plan, our board of directors or the authorized committee, referred to herein as the 2015 Plan administrator, determines recipients, dates of grant, the numbers and types of stock awards to be granted and the terms and conditions of the stock awards, including the period of their exercisability and vesting schedule applicable to a stock award. Subject to the limitations set forth below, the 2015 Plan administrator will also determine the exercise price or purchase price of awards granted and the types of consideration to be paid for the award.

Repricing; Cancellation and Re-Grant of Stock Awards. The 2015 Plan administrator has the authority to modify outstanding awards under the 2015 Plan. Subject to the terms of the 2015 Plan, the 2015 Plan administrator has the authority to reduce the exercise, purchase or strike price of any outstanding stock award, cancel any outstanding stock award in exchange for new stock awards, cash or other consideration, or take any other action that is treated as a repricing under generally accepted accounting principles, with the consent of any adversely affected participant.

Stock Options. ISOs and NSOs are granted pursuant to stock option agreements adopted by the 2015 Plan administrator. The 2015 Plan administrator determines the exercise price for a stock option, within the terms and conditions of the 2015 Plan, provided that the exercise price of a stock option generally cannot be less than 100% of the fair market value of our common stock on the date of grant. Options granted under the 2015 Plan vest at the rate specified by the 2015 Plan administrator.

The 2015 Plan administrator determines the term of stock options granted under the 2015 Plan, up to a maximum of ten years. Unless the terms of an optionholder's stock option agreement provide otherwise, if an optionholder's service relationship with us, or any of our affiliates, ceases for any reason other than disability, death or cause, the optionholder may generally exercise any vested options for a period of three months following the cessation of service. The option term may be extended in the event that the exercise of the option following such a termination of service is prohibited by applicable securities laws or our insider trading policy. If an optionholder's service relationship with us or any of our affiliates ceases due to disability or death, or an optionholder dies within a certain period following cessation of service, the optionholder or a beneficiary may generally exercise any vested options for a period of 12 months in the event of disability and 12 months in the event of death. In the event of a termination for cause, options generally terminate immediately upon the termination of the individual for cause. In no event may an option be exercised beyond the expiration of its term.

Acceptable consideration for the purchase of common stock issued upon the exercise of a stock option will be determined by the 2015 Plan administrator and may include (1) cash, check, bank draft or money order, (2) a broker-assisted cashless exercise, (3) the tender of shares of our common stock previously owned by the optionholder, (4) a net exercise of the option if it is an NSO, and (5) other legal consideration approved by the 2015 Plan administrator.

Tax Limitations on Incentive Stock Options. The aggregate fair market value, determined at the time of grant, of our common stock with respect to ISOs that are exercisable for the first time by an optionholder during any calendar year under all of our stock plans may not exceed $100,000. Options or portions thereof that exceed such limit will generally be treated as NSOs. No ISO may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any of our affiliates unless (1) the option exercise price is at least 110% of the fair market value of the stock subject to the option on the date of grant, and (2) the term of the ISO does not exceed five years from the date of grant.

Restricted Stock Awards. Restricted stock awards are granted pursuant to restricted stock award agreements adopted by the 2015 Plan administrator. Restricted stock awards may be granted in consideration for (1) cash, check, bank draft or money order, (2) services rendered to us or our affiliates, or (3) any other form of legal consideration. Common stock acquired under a restricted stock award may, but need not, be subject to a share repurchase option in our favor in accordance with a vesting schedule to be determined by the 2015 Plan administrator. A restricted stock award may be transferred only upon such terms and conditions as set by the 2015 Plan administrator. Except as otherwise provided in the applicable award agreement, restricted stock awards that have not vested may be forfeited or repurchased by us upon the participant's cessation of continuous service for any reason.

Restricted Stock Unit Awards. Restricted stock unit awards are granted pursuant to restricted stock unit award agreements adopted by the 2015 Plan administrator. Restricted stock unit awards may be granted in consideration for any form of legal consideration. A restricted stock unit award may be settled by cash, delivery of stock, a combination of cash and stock as deemed appropriate by the 2015 Plan administrator, or in any other form of consideration set forth in the restricted stock unit award agreement. Additionally, dividend equivalents may be credited in respect of shares covered by a restricted stock unit award. Except as otherwise provided in the applicable award agreement, restricted stock units that have not vested will be forfeited upon the participant's cessation of continuous service for any reason.

Stock Appreciation Rights. Stock appreciation rights are granted pursuant to stock appreciation grant agreements adopted by the 2015 Plan administrator. The 2015 Plan administrator determines the strike price for a stock appreciation right, which generally cannot be less than 100% of the fair market value of our common stock on the date of grant. Upon the exercise of a stock appreciation right, we will pay the participant an amount equal to the product of (1) the excess of the per share fair market value of our common stock on the date of exercise over the strike price, multiplied by (2) the number of shares of common stock with respect to which the stock appreciation right is exercised. A stock appreciation right granted under the 2015 Plan vests at the rate specified in the stock appreciation right agreement as determined by the 2015 Plan administrator.

The 2015 Plan administrator determines the term of stock appreciation rights granted under the 2015 Plan, up to a maximum of ten years. Unless the terms of a participant's stock appreciation right agreement provide otherwise, if a participant's service relationship with us or any of our affiliates ceases for any reason other than cause, disability or death, the participant may generally exercise any vested stock appreciation right for a period of three months following the cessation of service. The stock appreciation right term may be further extended in the event that exercise of the stock appreciation right following such a termination of service is prohibited by applicable securities laws. If a participant's service relationship with us, or any of our affiliates, ceases due to disability or death, or a participant dies within a certain period following cessation of service, the participant or a beneficiary may generally exercise any vested stock appreciation right for a period of 12 months in the event of disability and 12 months in the event of death. In the event of a termination for cause, stock appreciation rights generally terminate immediately upon the occurrence of the event giving rise to the termination of the individual for cause. In no event may a stock appreciation right be exercised beyond the expiration of its term.

Other Stock Awards. The 2015 Plan administrator may grant other awards based in whole or in part by reference to our common stock. The 2015 Plan administrator will set the number of shares under the stock award and all other terms and conditions of such awards.

Changes to Capital Structure. In the event that there is a specified type of change in our capital structure, such as a stock split or recapitalization, appropriate adjustments will be made to (1) the class and maximum number of shares reserved for issuance under the 2015 Plan, (2) the class and maximum number of shares that may be issued upon the exercise of ISOs, and (3) the class and number of shares and exercise price, strike price, or purchase price, if applicable, of all outstanding stock awards.

Transactions. The following applies to stock awards under the 2015 Plan in the event of a transaction (as defined in the 2015 Plan), unless otherwise provided in a participant's stock award agreement or other written agreement with us or one of our affiliates or in any director compensation policy or unless otherwise expressly provided by the 2015 Plan administrator at the time of grant.

In the event of a transaction, any stock awards outstanding under the 2015 Plan may be assumed, continued or substituted for by any surviving or acquiring corporation (or its parent company), and any reacquisition or repurchase rights held by us with respect to the stock award may be assigned to the successor (or its parent company). If the surviving or acquiring corporation (or its parent company) does not assume, continue or substitute for such stock awards, then (i) with respect to any such stock awards that are held by participants whose continuous service has not terminated prior to the effective time of the transaction, or current participants, the vesting (and exercisability, if applicable) of such stock awards will be accelerated in full to a date prior to the effective time of the transaction (contingent upon the effectiveness of the transaction), and such stock awards will terminate if not exercised (if applicable) at or prior to the effective time of the transaction, and any reacquisition or repurchase rights held by us with respect to such stock awards will lapse (contingent upon the effectiveness of the transaction), and (ii) any such stock awards that are held by persons other than current participants will terminate if not exercised (if applicable) prior to the effective time of the transaction, except that any reacquisition or repurchase rights held by us with respect to such stock awards will not terminate and may continue to be exercised notwithstanding the transaction.

In the event a stock award will terminate if not exercised prior to the effective time of a transaction, the 2015 Plan administrator may provide, in its sole discretion, that the holder of such stock award may not exercise such stock award but instead will receive a payment equal in value to the excess (if any) of (i) the per share amount payable to holders of common stock in connection with the Transaction, over (ii) any per share exercise price payable by such holder provided in the stock award, if applicable. For clarity, this payment may be $0 if the per share amount of the payments to holders of common stock is equal to or less than the exercise price of the stock award. In addition, any escrow, holdback, earn out or similar provisions in the definitive agreement for the transaction may apply to such payment to the same extent and in the same manner as such provisions apply to the holders of common stock.

Under the 2015 Plan, a transaction means a corporate transaction or a change in control. A corporate transaction is generally the consummation of (1) a sale or other disposition of all or substantially all of our consolidated assets, (2) a sale or other disposition of at least 90% of our outstanding securities, (3) a merger, consolidation or similar transaction following which we are not the surviving corporation, or (4) a merger, consolidation or similar transaction following which we are the surviving corporation but the shares of our common stock outstanding immediately prior to such transaction are converted or exchanged into other property by virtue of the transaction. Under the 2015 Plan, a change in control is generally (1) the acquisition by a person or entity of more than 50% of our combined voting power other than by merger, consolidation or similar transaction; (2) a consummated merger, consolidation or similar transaction immediately after which our stockholders cease to own more than 50% of the combined voting power of the surviving entity; or (3) a consummated sale, lease or exclusive license or other disposition of all or substantially all of our consolidated assets other than to an entity more than 50% of the combined voting power of which is owned by our stockholders.

Change in Control. The 2015 Plan administrator may provide, in an individual award agreement or in any other written agreement between a participant and us that the stock award will be subject to additional acceleration of vesting and exercisability in the event of a change in control.

Transferability. A participant generally may not transfer stock awards under the 2015 Plan other than by will, the laws of descent and distribution, or as otherwise provided under the 2015 Plan.

Amendment and Termination. Our board of directors has the authority to amend, suspend, or terminate the 2015 Plan, provided that, with certain exceptions, such action does not materially impair the existing rights of any participant without such participant's written consent.

2004 Equity Incentive Plan

Our board of directors adopted the 2004 Plan in October 2004, and our stockholders approved the 2004 Plan in October 2004. The 2004 Plan expired in accordance with its terms in October 2014 and no further stock awards may be granted under the 2004 Plan. Any awards granted under the 2004 Plan remain subject to the terms of the 2004 Plan and applicable award agreements, until such outstanding awards that are stock options are exercised, or until they terminate or expire by their terms, and until any restricted stock awards become vested, terminate or are forfeited.

Stock Awards. The 2004 Plan provides for the grant of ISOs, within the meaning of Section 422 of the Code, to our employees and the employees of our affiliates, and for the grant of NSOs and restricted stock awards to our employees, directors and consultants and the employees, directors and consultants of our affiliates. We have granted stock options and restricted stock awards under the 2004 Plan.

Authorized Shares. We previously reserved 4,785,665 shares of our common stock for issuance under the 2004 Plan. Effective upon the expiration of the 2004 Plan, no further options or stock awards may be granted under the 2004 Plan, but all outstanding stock awards continue to be governed by their existing terms.

If a stock award granted under the 2004 Plan is forfeited back to us because of the failure to meet a contingency or condition required to vest, such shares will become available for subsequent issuance under the 2015 Plan. In addition, shares withheld to satisfy income or employment withholding taxes and shares used to pay the exercise price of a stock option will become available for the grant of new stock

awards under the 2015 Plan. Shares issued under the 2004 Plan may be authorized but unissued or reacquired common stock, including shares repurchased by us on the open market.

Plan Administration. Subject to the terms of the 2004 Plan, our board of directors, referred to herein as the 2004 Plan administrator, determined recipients, dates of grant, the numbers and types of stock awards that were granted and the terms and conditions of the stock awards, including the period of their exercisability and vesting schedule applicable to a stock award. Subject to the limitations set forth below, the 2004 Plan administrator determined the exercise price or purchase price of awards granted and the types of consideration to be paid for the award.

Under the 2004 Plan, the 2004 Plan administrator also has the authority to authorize the company, with the consent of the respective participants, to issue new stock awards in exchange for the surrender and cancellation of any or all outstanding stock awards. The 2004 Plan administrator may at any time purchase a previously granted stock award for cash, shares of our common stock (including restricted stock) or other consideration, based on such terms and conditions agreed upon by the 2004 Plan administrator and the applicable participant.

Stock Options. ISOs and NSOs were granted pursuant to stock option agreements adopted by the 2004 Plan administrator. The 2004 Plan administrator determined the exercise price for each stock option, within the terms and conditions of the 2004 Plan, provided that the exercise price of a NSO could not be less than 85% of the fair market value of our common stock on the date of grant and the exercise price of a ISO must equal at least 100% of the fair market value of our common stock on the date of grant and the term of an option may not exceed ten years, provided further, that no ISO may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any of our affiliates unless (1) the option exercise price is at least 110% of the fair market value of the stock subject to the option on the date of grant, and (2) the term of the ISO does not exceed five years from the date of grant. Options granted under the 2004 Plan vest at the rate specified by the 2004 Plan administrator. The 2004 Plan administrator determined the term of stock options granted under the 2004 Plan, up to a maximum of ten years. Unless the terms of a participant's stock option agreement provide otherwise, if a participant's service relationship with us, or any of our affiliates, ceases for any reason other than disability, death or cause, the participant may generally exercise any vested options for a period of three months following the cessation of service. If a participant's service relationship with us or any of our affiliates ceases due to disability or death, or a participant dies within three months following a termination other than for cause, the participant or a beneficiary may generally exercise any vested options for a period of 12 months in the event of disability and 12 months in the event of death. In the event of a termination for cause, the participant may exercise such vested options upon the participant's termination date and the participant's options will terminate on such date to the extent not exercised. In no event may an option be exercised beyond the expiration of its term.

In addition to cash, if expressly approved by the 2004 Plan administrator, acceptable consideration for the purchase of common stock issued upon the exercise of a stock option may include (1) the cancellation of our indebtedness owed to the participant, (2) the tender of shares of our common stock previously owned by the participant, (3) the tender of a full recourse promissory note, (4) the waiver of compensation due or accrued to the participant for services rendered, (5) a broker-assisted cashless exercise provided that there is a public market for our common stock, (6) a "margin" commitment from the participant and a broker-dealer provided that there is a public market for our common stock, and (7) any of the foregoing.

Restricted Stock Awards. Restricted stock awards are granted pursuant to restricted stock award agreements adopted by the 2004 Plan administrator. With respect to restricted stock granted under the 2004 Plan, the purchase price of restricted stock must equal at least 85% of the fair market value of our common stock on the date of grant, provided however, that no restricted stock may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any of our affiliates unless the purchase price is at least 100% of the fair market value of the restricted stock on the date of purchase. In addition to cash, if expressly approved by the 2004 Plan administrator, acceptable consideration for the purchase of restricted stock may include (1) the cancellation of our indebtedness owed to the participant, (2) the tender of shares of our common stock previously owned by the participant, (3) the tender of a full recourse promissory note, (4) the waiver of compensation due or accrued to the participant for services rendered, or (5) any of the foregoing. Common stock acquired under a restricted stock award may, but need not, be subject to a share repurchase option in our favor in accordance with a vesting schedule to be determined by the 2004 Plan administrator. The restricted stock award will be accepted by the participant's execution and delivery of a restricted stock purchase agreement and full payment for the shares to us within 30 days from the date the restricted stock purchase agreement is delivered to the person. If such person does not execute and deliver a restricted stock purchase agreement along with full payment for the shares to us within 30 days, then the offer will terminate, unless otherwise determined by the 2004 Plan administrator. The 2004 Plan administrator may provide in the applicable award agreement that restricted stock awards that have not vested may be repurchased by us upon the participant's cessation of continuous service for any reason within the later of 90 days after the participant's termination date and the date the participant purchased shares under the 2004 Plan at the participant's purchase price.

Corporate Transactions. The 2004 Plan provides that in the event of (i) a dissolution or liquidation of the company, (ii) any reorganization, consolidation, merger or similar transaction or series of related transactions or (iii) a sale of all or substantially all of the assets of the company, any or all outstanding stock awards may be assumed, converted or replaced by the successor or acquiring corporation. The successor or acquiring corporation may alternatively substitute equivalent awards or provide substantially similar consideration to participants as was provided to our stockholders. The successor or acquiring corporation may also substitute by issuing, in place of outstanding shares of the company held by the participant, substantially similar shares or other property subject to repurchase restrictions and other provisions no less favorable to the participant than those which applied to such outstanding shares immediately prior to such transaction. In the event such successor or acquiring corporation refuses to assume, convert, replace or substitute awards, the vesting of such stock awards will accelerate and the stock awards will become exercisable in full prior to the consummation of such event at such times and on such conditions as the 2004 Plan administrator determines, and if such stock awards are not exercised prior to the consummation of the corporate transaction, they shall terminate in accordance with the provisions of the 2004 Plan.

Transferability. Under the 2004 Plan, the 2004 Plan administrator may provide for limitations on the transferability of awards, in its sole discretion. Stock awards are generally not transferable other than by will or the laws of descent and distribution, except as otherwise provided under the 2004 Plan.

Plan Amendment or Termination. The 2004 Plan administrator has the authority to amend, suspend, or terminate the 2004 Plan, although certain material amendments require the approval of our stockholders, and amendments that would impair the rights of any participant require the consent of that participant. As noted above, the 2004 Plan expired in accordance with its terms in October 2014.

2017 Employee Stock Purchase Plan

Our board of directors adopted the 2017 Employee Stock Purchase Plan, or the ESPP, in September 2017, and our stockholders approved the ESPP in October 2017. The ESPP will become effective upon the completion of this offering. The purpose of the ESPP is to secure the services of new employees, to retain the services of existing employees, and to provide incentives for such individuals to exert maximum efforts toward our success and that of our affiliates. The ESPP is intended to qualify as an "employee stock purchase plan" within the meaning of Section 423 of the Code for U.S. employees. In addition, the ESPP authorizes grants of purchase rights that do not comply with Section 423 of the Code under a separate non-423 component. In particular, where such purchase rights are granted to employees who are foreign nationals or employed or located outside the United States, our board or directors may adopt rules that are beyond the scope of Section 423 of the Code.

Share Reserve. Following this offering, the ESPP authorizes the issuance of shares of our common stock outstanding under purchase rights granted to our employees or to employees of any of our designated affiliates. The number of shares of our common stock reserved for issuance will automatically increase on January 1st of each calendar year, beginning on January 1, 2018 (assuming the ESPP becomes effective in the calendar year ending on December 31, 2017) through January 1, 2027, by the lesser of 2% of the total number of shares of our capital stock outstanding on the last day of the calendar month before the date of the automatic increase, and (ii) 1,000,000 shares of our common stock; provided that before the date of any such increase, our board of directors may determine that such increase will be less than such amount. As of the date hereof, no shares of our common stock have been purchased under the ESPP.

Administration. Our board of directors has delegated its authority to administer the ESPP to our compensation committee. The ESPP is implemented through a series of offerings under which eligible employees are granted purchase rights to purchase shares of our common stock on specified dates during such offerings. Under the ESPP, we may specify offerings with durations of not more than 27 months, and may specify shorter purchase periods within each offering. Each offering will have one or more purchase dates on which shares of our common stock will be purchased for employees participating in the offering. We currently intend to have six (6) month offerings with one purchase period per offering, except that the first purchase period under our first offering may be longer than six months, depending on the date on which the underwriting agreement relating to this offering becomes effective. An offering under the ESPP may be terminated under certain circumstances.

Payroll Deductions. Generally, all regular employees, including executive officers, employed by us or by any of our designated affiliates, may participate in the ESPP and may contribute, normally through payroll deductions, up to 15% of their earnings (as defined in the ESPP) for the purchase of our common stock under the ESPP. Unless otherwise determined by our board of directors, common stock will be purchased for the accounts of employees participating in the ESPP at a price per share that is at least the lesser of (1) 85% of the fair market value of a share of our common stock on the first date of an offering, or (2) 85% of the fair market value of a share of our common stock on the date of purchase. For the initial offering, which we expect will commence on the execution and delivery of the underwriting agreement relating to this offering, the fair market value on the first day of the offering period will be the price at which shares of common stock are first sold to the public.

Limitations. Employees may have to satisfy one or more of the following service requirements before participating in the ESPP, as determined by our board of directors, including: (1) being customarily employed for more than 20 hours per week, (2) being customarily employed for more than five months per calendar year, or (3) continuous employment with us or one of our affiliates for a period of time (not to exceed two years). No employee may purchase shares under the ESPP at a rate in excess of $25,000 worth of our common stock based on the fair market value per share of our common stock at the beginning of an offering for each year such a purchase right is outstanding and the maximum number of shares an employee may purchase during a single purchase period is 3,000. Finally, no employee will be eligible for the grant of any purchase rights under the ESPP if immediately after such rights are granted, such employee has voting power over 5% or more of our outstanding capital stock measured by vote or value under Section 424(d) of the Code.

Changes to Capital Structure. In the event that there occurs a change in our capital structure through such actions as a stock split, merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, liquidating dividend, combination of shares, exchange of shares, change in corporate structure, or similar transaction, the board of directors will make appropriate adjustments to: (1) the number of shares reserved under the ESPP, (2) the maximum number of shares by which the share reserve may increase automatically each year, (3) the number of shares and purchase price of all outstanding purchase rights, and (4) the number of shares that are subject to purchase limits under ongoing offerings.

Corporate Transactions. In the event of certain significant corporate transactions, including: (1) a sale of all or substantially all of our assets, (2) the sale or disposition of more than 50% of our outstanding securities, (3) the consummation of a merger or consolidation where we do not survive the transaction, and (4) the consummation of a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding immediately before such transaction are converted or exchanged into other property by virtue of the transaction, any then-outstanding rights to purchase our stock under the ESPP may be assumed, continued or substituted for by any surviving or acquiring entity (or its parent company). If the surviving or acquiring entity (or its parent company) elects not to assume, continue, or substitute for such purchase rights, then the participants' accumulated payroll contributions will be used to purchase shares of our common stock within 10 business days before such corporate transaction, and such purchase rights will terminate immediately.

ESPP Amendment or Termination. Our board of directors has the authority to amend or terminate the ESPP, provided that except in certain circumstances such amendment or termination may not materially impair any outstanding purchase rights without the holder's consent. We will obtain stockholder approval of any amendment to the ESPP as required by applicable law or listing requirements.

Rule 10b5-1 Sales Plans

Our directors and executive officers may adopt written plans, known as Rule 10b5-1 plans, in which they will contract with a broker to buy or sell our common shares on a periodic basis. Under a Rule 10b5-1 plan, a broker executes trades pursuant to parameters established by the director or officer when entering into the plan, without further direction from them. The director or officer may amend a Rule 10b5-1 plan in some circumstances and may terminate a plan at any time. Our directors and executive officers also may buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material nonpublic information subject to compliance with the terms of our insider trading policy. Prior to 180 days after the date of this offering, subject to early termination, the sale of any shares under such plan would be prohibited by the lock-up agreement that the director or officer has entered into with the underwriters.

Certain Relationships and Related Party Transactions

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS The following includes a summary of transactions since January 1, 2013 to which we have been a party, in which the amount involved in the transaction exceeded $120,000, and in which any of our directors, executive officers or beneficial owners of more than 5% of our capital stock or any member of the immediate family of any of the foregoing persons had or will have a direct or indirect material interest, other than equity and other compensation, termination, change in control and other arrangements, which are described under "Executive Compensation."

Preferred Stock Financings

Series G Convertible Preferred Stock Financing

From January 2014 through July 2014, we issued and sold an aggregate of 13,972,043 shares of our Series G convertible preferred stock, or Series G stock, at a purchase price of $1.4314298 per share, for aggregate consideration of approximately $20 million.

The participants in this convertible preferred stock financing included the following members of our board of directors and holders of more than 5% of our capital stock or entities affiliated with them. The following table sets forth the aggregate number of shares of Series G stock issued to these related parties in this convertible preferred stock financing:

Participants	Shares of Series GStock	Aggregate PurchasePrice
GLOBALFOUNDRIES U.S. Inc.[1]	2,692,321	$3,853,869
Joint Stock Company "RUSNANO"[2]	1,397,204	1,999,999
New Enterprise Associates 13, L.P.[6]	1,397,204	1,999,999
Entities Affiliated with Pinnacle Ventures[3]	918,594	1,314,903
Entities Affiliated with Greylock Partners[4][6]	696,570	997,091
Entities Affiliated with Lightspeed Ventures[5][6]	612,479	876,721
Total	7,714,372	$11,042,582

(1) Dr. Bastani, a member of our board of directors, is an officer of GLOBALFOUNDRIES U.S. Inc.

(2) Mr. Akhanov, a member of our board of directors, is President and Chief Executive Officer of Rusnano USA, Inc., a U.S. subsidiary of RUSNANO. RUSNANO is a joint stock company organized under the laws of the Russian Federation. The Russian Federation owns 100% of RUSNANO.

(3) Includes (a) 34,440 shares purchased by Pinnacle Ventures I-A (Q), L.P.; (b) 100,565 shares purchased by Pinnacle Ventures I-B, L.P.; (c) 3,029 shares purchased by Pinnacle Ventures I Affiliates, L.P.; (d) 6,054 shares purchased by Pinnacle Ventures II-A, L.P.; (e) 254,287 shares purchased by Pinnacle Ventures II-B, L.P.; (f) 21,191 shares purchased by Pinnacle Ventures II-C, L.P.; (g) 21,191 shares purchased by Pinnacle Ventures II-R, L.P.; (h) 262,810 shares purchased by Pinnacle Ventures Equity Fund I, L.P.; (i) 191,135 shares purchased by Pinnacle Ventures Equity Fund I-O, L.P.; and (j) 23,892 shares purchased by Pinnacle Ventures Equity Fund I Affiliates, L.P. Mr. Pelowski, a member of our board of directors, is a partner at Pinnacle Ventures.

(4) Includes (a) 609,921 shares purchased by Greylock XI Limited Partnership; (b) 16,992 shares purchased by Greylock XI-A Limited Partnership; and (c) 69,657 shares purchased by Greylock XI Principals LLC.

(5) Includes (a) 48,219 shares purchased by LSVP VI Cayman Trust; (b) 538,683 shares purchased by LSVP VI Trust; (c) 3,977 shares purchased by LSVP VI-A Trust; (d) 19,267 shares purchased by LSVPE VI Trust; and (e) 2,333 shares purchased by LSVPE VI-A Trust.

(6) (a) Entities affiliated with New Enterprise Associates, (b) entities affiliated with Greylock Partners and (c) entities affiliated with Lightspeed Ventures, each held more than 5% of our capital stock at the time of this transaction. As the result of a secondary sale transaction completed on August 25, 2017, each of these groups of entities currently holds less than 5% of our capital stock. See footnote (14) to the beneficial ownership table under the section titled "Principal Stockholders" for additional information regarding the secondary sale transaction.

Series H Convertible Preferred Stock Financing

From March 2015 through July 2015, we issued and sold an aggregate of 25,848,278 shares of our Series H convertible preferred stock, or Series H stock, at a purchase price of $1.4314298 per share, for aggregate consideration of approximately $37.0 million.

The participants in this convertible preferred stock financing included the following members of our board of directors and holders of more than 5% of our capital stock or entities affiliated with them. The following table sets forth the aggregate number of shares of Series H stock issued to these related parties in this convertible preferred stock financing:

Participants	Shares of Series HStock	Aggregate PurchasePrice
GLOBALFOUNDRIES U.S. Inc.[1]	13,972,044	$20,000,000
Walden Riverwood Ventures, L.P.[2]	3,493,011	5,000,000
Total	17,465,055	$25,000,000

(1) Dr. Bastani, a member of our board of directors, is an officer of GLOBALFOUNDRIES U.S. Inc.

(2) Mr. Tan, a member of our board of directors, is a director of Walden Riverwood GP, LLC, which is the general partner of Walden Riverwood Ventures, L.P., and he is a member of the investment committee of Walden Riverwood Ventures, L.P.

In connection with our Series H convertible preferred stock financing, we issued a warrant to purchase up to 9,756,160 shares of Series H convertible preferred stock to GLOBALFOUNDRIES U.S. Inc. at an exercise price of $0.01 per share. This warrant was exercised in full on May 5, 2017. Dr. Bastani, a member of our board of directors, is an officer of GLOBALFOUNDRIES U.S. Inc.

Pinnacle Ventures Loan and Security Agreement and Series F and Series G Preferred Stock Warrants

In April 2013, we entered into a Loan and Security Agreement with Pinnacle Ventures, L.L.C., or Pinnacle Ventures, for an aggregate principal amount of $15.0 million. In connection with this loan, we issued a fully-vested warrant to Pinnacle Ventures to purchase up to 646,551 shares of our Series F convertible preferred stock at an exercise price of $0.928 per share. This loan also provided Pinnacle Ventures with the option to convert up to $2.25 million of the outstanding principal amount into 2,424,569 shares of Series F stock at a conversion price of $0.928 per share prior to June 30, 2014. This option expired unexercised on June 30, 2014.

On December 16, 2014, we entered into an Amended and Restated Loan and Security Agreement with Pinnacle Ventures pursuant to which we borrowed an additional $8.8 million. The aggregate principal amount borrowed under the Pinnacle loan was $23.7 million. Monthly principal payments begin in May 2016 and the final payment of $1.5 million is due upon the earliest to occur of the maturity date of July 1, 2018 or the prepayment of all outstanding principal and accrued and unpaid interest. In connection with this loan, we issued a warrant to Pinnacle Ventures to purchase up to 640,129 shares of our Series G or Series H convertible preferred stock, at the election of the holder, at an exercise price of $1.4314298 per share. We also entered into a related Subordination Agreement with Pinnacle Ventures and Hercules Technology Growth Capital, Inc. on January 30, 2015. We intend to use a portion of the net proceeds from this offering to prepay in full the Pinnacle loan. See the section titled "Use of Proceeds."

Mr. Pelowski, a member of our board of directors, is a partner at Pinnacle Ventures.

Executive Officer Promissory Notes

In 2009 and 2010, we granted to Faraj Aalaei options to purchase an aggregate of 1,107,460 shares of our common stock at exercise prices ranging from $1.10 per share to $2.10 per share. These options were early exercised through the tender of promissory notes with interest ranging from 1.73% to 1.94% and collateralized by the shares of our common stock issued upon the exercise of the stock options. In April 2014, $175,000 of interest on these promissory notes was forgiven in the form of a bonus to Mr. Aalaei. In January 2016, the outstanding principal balance of these promissory notes and the accrued interest thereon was repaid in-full, with the exception of $42,000 of accrued interest that was forgiven in the form of a bonus to Mr. Aalaei.

In 2009 and 2010, we granted to Ramin Shirani options to purchase an aggregate of 189,254 shares of our common stock at exercise prices ranging from $1.10 per share to $2.10 per share. These options were early exercised through the tender of promissory notes with interest ranging from 1.73% to 1.94% and collateralized by the shares of our common stock issued upon the exercise of the stock options. In February 2016, the outstanding principal balance of these promissory notes and the accrued interest thereon was repaid in-full.

As of June 30, 2017, no promissory notes to Messrs. Aalaei or Shirani, nor to any of our other directors or executive officers, are outstanding.

Agreements with GLOBALFOUNDRIES U.S. Inc.

On July 29, 2014, we entered into a letter agreement with GLOBALFOUNDRIES U.S. Inc., or GLOBALFOUNDRIES, pursuant to which we agreed to collaborate on the development of certain products which we will design and plan to have manufactured by GLOBALFOUNDRIES. The agreement has provided us access to GLOBALFOUNDRIES' collaborative efforts to help us develop our products and shorten the time to market. Each party to this letter agreement is responsible for its own expenses incurred in connection with its respective development efforts, and this letter agreement has no specified expiration date. There are no further material terms or conditions applicable to this letter agreement, and the terms of any subsequent manufacturing arrangement that we may agree to enter into will be subject to the negotiation of terms by the parties. Also pursuant to this letter agreement, GLOBALFOUNDRIES agreed to invest in our Series H Preferred Stock, and we agreed to grant warrants, in each case as described above under "—Series H Convertible Preferred Stock Financing."

On June 20, 2016, GLOBALFOUNDRIES Inc. and Aquantia entered into an IP licensing agreement on certain technology intended to be incorporated into products under development, in which we agreed to pay GLOBALFOUNDRIES Inc. an initial $2.0 million licensing fee, support fees of $0.5 million over a period of two years and additional licensing fees of $3.0 million at a later point of the development program contingent on the achievement of certain development milestones. In addition, royalties may be due on products sold utilizing the licensed IP. From time to time, we also purchase tooling, mask sets, wafers and services from GLOBALFOUNDRIES in our ordinary course of business. We recorded $4.2 million and $1.8 million to research and development expenses, inventory and cost of revenue for the year ended December 31, 2016 and six months ended June 30, 2017, respectively, in relation to toolings, mask sets, wafers and services. See Note 16 to our audited consolidated financial statements included elsewhere in this prospectus. We did not incur any expenses to GLOBALFOUNDRIES in 2014 and 2015.

Investors' Rights Agreement, Voting Agreement and Right of First Refusal and Co-Sale Agreement

In connection with the sales of convertible preferred stock described above, we entered into an investors' rights agreement, a voting agreement and a right of first refusal and co-sale agreement with the holders of preferred stock, including each of the persons and entities listed in the table above.

The investors' rights agreement, among other things:

- grants our preferred stock holders specified registration rights with respect to shares of our common stock, including shares of our common stock issued or issuable upon conversion of the shares of convertible preferred stock held by them;
- obligates us to deliver financial information to specified stockholders;
- grants a right of first refusal with respect to sales of our securities by us to specified stockholders, subject to specified exclusions, which exclusions include the sale of common stock pursuant to this offering; and
- obligated us to establish a design center in Russia in accordance with an agreed upon investment plan as a result of the investment in our company by Joint Stock Company "RUSNANO", which obligation was satisfied.

For more information regarding the registration rights provided in the investors' rights agreement, please refer to the section titled "Description of Capital Stock—Registration Rights." The provisions of this agreement, other than with respect to registration rights, will terminate upon the closing of this offering.

The voting agreement, among other things, provides for the voting of shares with respect to the election of directors and the voting of shares in favor of specified transactions approved by our board of directors and a majority of the shares of common stock then issued or issuable upon conversion of our convertible preferred stock. In accordance with the voting agreement, the holders of common stock, voting as a separate class, have designated Mr. Aalaei and Mr. Shirani for election to our board of directors, the holders of preferred stock, voting as a separate class, have designated Dr. Bastani and Messrs. Akhanov, Pelowski and Tan for election to our board of directors, and the holders of common stock and preferred stock, voting together as a single class and on an as-converted basis, have designated Mr. Swahn and Mr. Srinivasan for election to our board of directors. The voting agreement will terminate immediately prior to the closing of this offering.

The right of first refusal and co-sale agreement, among other things, grants our investors rights of first refusal and co-sale with respect to proposed transfers of our securities by specified stockholders and grants us rights of first refusal with respect to proposed transfers of our securities by specified stockholders. The right of first refusal and co-sale agreement will terminate immediately prior to the closing of this offering.

Employment Agreements

We have entered into employment agreements with certain of our executive officers. See "Executive Compensation—Agreements with our Named Executive Officers" and "—Potential Payments upon Termination or Change of Control."

Stock Option Grants to Executive Officers and Non-Employee Directors

We have granted stock options to our executive officers and certain of our non-employee directors. For a description of options granted to our named executive officers and non-employee directors, see the section titled "Executive Compensation—Outstanding Equity Awards at 2016 Fiscal Year-End" and "Management—Non-Employee Director Compensation" above.

Indemnification Agreements

We have entered, and intend to continue to enter, into separate indemnification agreements with our directors and executive officers, in addition to the indemnification provided for in our amended and restated bylaws. These agreements, among other things, require us to indemnify our directors and executive officers for certain expenses, including attorneys' fees, judgments, penalties, fines and settlement amounts incurred by a director or executive officer in any action or proceeding arising out of their services as one of our directors or executive officers or as a director or executive officer of any other company or enterprise to which the person provides services at our request. For more information regarding these indemnification arrangements, see "Management—Limitation on Liability and Indemnification of Directors and Officers." We believe that these bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against directors and officers, even though an action, if successful, might benefit us and our

stockholders. A stockholder's investment may decline in value to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

Policies and Procedures for Transactions with Related Parties

We have adopted a written related party transactions and SEC compliance policy that sets forth our policies and procedures regarding the identification, review, consideration and oversight of "related-party transactions." For purposes of our policy only, a "related-party transaction" is a transaction, arrangement or relationship (or any series of similar transactions, arrangements or relationships) in which we and any "related party" are participants involving an amount that exceeds $120,000.

Transactions involving compensation for services provided to us as an employee, consultant or director are not considered related-party transactions under this policy. A related party is any executive officer, director, nominee to become a director or a holder of more than 5% of our common stock, including any of their immediate family members and affiliates, including entities owned or controlled by such persons.

Under the policy, where a transaction has been identified as a related-party transaction, management must present information regarding the proposed related-party transaction to our audit committee (or, where review by our audit committee would be inappropriate, to another independent body of our board of directors) for review, consideration and approval or ratification. The presentation must include a description of, among other things, all of the parties, the direct and indirect interests of the related parties, the purpose of the transaction, the material facts, the benefits of the transaction to us and whether any alternative transactions are available, an assessment of whether the terms are comparable to the terms available from unrelated third parties and management's recommendation. To identify related-party transactions in advance, we rely on information supplied by our executive officers, directors and certain significant stockholders. In considering related-party transactions, our audit committee or another independent body of our board of directors takes into account the relevant available facts and circumstances including, but not limited to:

- the risks, costs and benefits to us;
- the impact on a director's independence in the event the related party is a director, immediate family member of a director or an entity with which a director is affiliated;
- the terms of the transaction;
- the availability of other sources for comparable services or products; and
- the terms available to or from, as the case may be, unrelated third parties.

In the event a director has an interest in the proposed transaction, the director must recuse himself or herself from the deliberations and approval.

In addition, under the policy, all of our executive officers and directors are required to abide by the securities laws that govern related party transactions. Any actions or relationships that are covered by this policy with respect to our executive officers and directors are those that meet the requirement for disclosure in our periodic filings with the SEC pursuant to Item 404 of Regulation S-K, and such related party transactions must be approved by our audit committee as required by applicable laws and regulations, and provided such approval is obtained in advance and such transactions are publicly disclosed, such approval shall not be deemed a waiver of this policy or other of our policies.

Principal Stockholders

PRINCIPAL STOCKHOLDERS The following table sets forth information regarding beneficial ownership of our capital stock by:

- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our common stock;
- each of our directors;
- each of our named executive officers; and
- all of our current executive officers and directors as a group.

The percentage ownership information under the column titled “Before Offering” is based on 25,527,741 shares of common stock outstanding as of August 31, 2017, assuming conversion of all outstanding shares of our convertible preferred stock into 20,816,754 shares of common stock immediately prior to the closing of this offering. The percentage ownership information under the column titled “After Offering” is based on the sale of shares of common stock in this offering by us.

Information with respect to beneficial ownership has been furnished by each director, officer or beneficial owner of more than 5% of our common stock. We have determined beneficial ownership in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities. In addition, the rules include shares of our common stock issuable pursuant to the exercise of stock options or warrants that are either immediately exercisable or exercisable within 60 days of August 31, 2017. As noted in the applicable footnotes to the table, some of the options are not vested but are exercisable at any time and, if exercised, subject to a lapsing right of repurchase until the options are fully vested. These shares are deemed to be outstanding and beneficially owned by the person holding those options or warrants for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them, subject to applicable community property laws.

Except as otherwise noted below, the address for each person or entity listed in the table is c/o Aquantia Corp., 105 E. Tasman Drive, San Jose, California 95134.

	Owned Prior to the Offering		Owned After the Offering	
	Number	%	Number	%
Greater than 5% Stockholders:				
Aquan LLC[1][14]	2,902,752	11.4%		%
Joint Stock Company “RUSNANO”[2]	2,833,685	11.1		
Entities Affiliated with Pinnacle Ventures[3]	2,798,661	10.9		
Entities Affiliated with Walden International[4][14]	2,720,632	10.7		
GLOBALFOUNDRIES U.S. Inc.[5]	2,642,052	10.3		
Paxion Partners, LP[6][14]	1,741,650	6.8		
Directors and Named Executive Officers:				
Faraj Aalaei[7][14]	1,857,539	7.1		
Mark Voll[8][14]	132,413	*		
Ramin Shirani[9]	797,930	3.1		
Kamal Dalmia[10]	267,499	1.0		
Dmitry Akhanov[3]	—	*		
Bami Bastani	—	*		
Ken Pelowski[3]	2,798,661	10.9		
Sam Srinivasan[11][14]	246,597	*		
Anders Swahn[12]	37,000	*		
Lip-Bu Tan[4][14]	2,720,632	10.7		
All current executive officers and directors as a group (10 persons)(13)(14)	**8,858,271**	**33.1**		

* Represents beneficial ownership of less than one percent.

(1) Hing Wong is the sole manager of Nauqa LLC, which is the sole manager of Aquan LLC. As such, Hing Wong may be deemed to have voting and dispositive power over the shares held by Aquan LLC. The address for Aquan LLC is 333 Bush Street, Suite 2800, San Francisco, CA 94104.

(2) Includes 2,833,685 shares held by Joint Stock Company “RUSNANO” (“RUSNANO”). RUSNANO is a joint stock company organized under the laws of the Russian Federation. The Russian Federation owns 100% of RUSNANO. The management board of RUSNANO, RUSNANO Management Company LLC (“RUSNANO Management”), and the board of directors of RUSNANO, have voting and investment power with respect to the shares held by RUSNANO. The members of the executive board of RUSNANO Management are Anatoly Chubais, Oleg Kiselev, German Pikhoya, Boris Podolsky and Yury Udaltsovy, and the members of the board of directors of RUSNANO are Arkadiy Dvorkovich, Anatoly Chubais, Igor Agamirzyan, Mikhail Alfimov, Oleg Fomichev, Andrey Ivanov, Denis Manturov, Vladislav Putilin, Pavel Teplukhin, Viktor Vekselberg and Ilya Yuzhanov. The members of the executive board of RUSNANO Management and the members of the board of directors of RUSNANO may be deemed to share voting and dispositive power with regard to the shares held directly by RUSNANO. Mr. Akhanov is President and Chief Executive Officer of Rusnano USA, Inc., a U.S. subsidiary of RUSNANO. The address of RUSNANO is 10A prospect 60-letiya Oktyabrya, Moscow, Russia 117036.

(3) Includes (a) 71,124 shares held by Pinnacle Ventures Equity Fund I Affiliates, L.P., (b) 782,394 shares held by Pinnacle Ventures Equity Fund I, L.P., (c) 569,012 shares held by Pinnacle Ventures Equity Fund I-O, L.P., (d) 27,725 shares issuable upon the exercise of warrants held by Pinnacle Ventures I (Q) Equity Holdings, L.L.C., (e) 7,675 shares held by, and 2,686 shares issuable upon the exercise of warrants held by, Pinnacle Ventures I Affiliates, L.P., (f) 95,621 shares held by Pinnacle Ventures I-A (Q), L.P., (g) 279,303 shares held by Pinnacle Ventures I-B, L.P., (h) 183,985 shares issuable upon the exercise of warrants held by Pinnacle Ventures II Equity Holdings, L.L.C., (i) 15,575 shares held by Pinnacle Ventures II-A, L.P., (j) 654,460 shares held by Pinnacle Ventures II-B, L.P., (k) 54,535 shares held by Pinnacle Ventures II-C, L.P., (l) 54,535 shares held by Pinnacle Ventures II-R, L.P., (m) 27 shares held by Pinnacle Ventures Management I, L.L.C and (n) 4 shares held by Pinnacle Ventures Management II, L.L.C. Pinnacle Ventures Equity Fund I Affiliates, L.P., Pinnacle Ventures Equity Fund I, L.P., Pinnacle Ventures Equity Fund I-O, L.P., Pinnacle Ventures I (Q) Equity Holdings, L.L.C., Pinnacle Ventures I Affiliates, L.P., Pinnacle Ventures I-A (Q), L.P., Pinnacle Ventures I-B, L.P., Pinnacle Ventures II Equity Holdings, L.L.C., Pinnacle Ventures II-A, L.P., Pinnacle Ventures II-B, L.P., Pinnacle Ventures II-C, L.P., Pinnacle Ventures II-R, L.P., Pinnacle Ventures Management I, L.L.C. and Pinnacle Ventures Management II, L.L.C. are collectively referred to as the entities affiliated with Pinnacle. The entities affiliated with Pinnacle are managed by general partner limited liability companies. Ken Pelowski is either the sole or controlling managing member of each such limited liability company and, as such, is deemed to have sole voting and dispositive power with respect to the shares held by the entities affiliated with Pinnacle. Mr. Pelowski disclaims beneficial ownership of such shares except to the extent of any pecuniary interest therein. The address for these entities is 1600 El Camino Real, Suite 250, Menlo Park, CA 94025.

(4) Includes (a) 1,868,084 shares held by WRV II, L.P. (“WRV II”), (b) 639,573 shares held by Walden Riverwood Ventures, L.P. (“WRV”) and (c) 212,975 shares held by A&E Investment, LLC. WRV GP II, LLC (“WRV GP II”) is the general partner of WRV II and Walden Riverwood GP, LLC (“WR GP”) is the general partner of WRV. Lip-Bu Tan, our lead independent director, Michael Marks and Nicholas Brathwaite are members of the investment committee of WRV GP II and may be deemed to share voting and dispositive power over the shares held by WRV II. Lip-Bu Tan and Michael Marks are members of the investment committee of WR GP and may be deemed to share voting and dispositive power over the shares held by WRV. The Lip-Bu Tan and Ysa Loo Trust dated 2/3/1992 is the sole member of A&E. Mr. Tan and Ms. Loo are co-trustees of this trust and may be deemed to share voting and dispositive power over the shares held by A&E. The address for Walden International is 333 Bush Street, Suite 2800, San Francisco, CA 94104.

(5) GLOBALFOUNDRIES U.S. Inc. is an indirect wholly-owned subsidiary of Mubadala Investment Company PJSC. Mubadala Investment Company is a public joint stock company that is wholly owned by the Government of Abu Dhabi. A committee of the Board of Directors of GLOBALFOUNDRIES Inc. has voting and dispositive power over the shares held by GLOBALFOUNDRIES U.S. Inc. The committee currently consists of the following individuals: Sanjay Jha, Elham Al-Qasim and Vivek Mohindra. The address for GLOBALFOUNDRIES U.S. Inc. is 2600 Great America Way, Santa Clara, CA 95054.

(6) Paxion Partners, LP (“Paxion Partners”) is the general partner of Paxion Capital, LP (“Paxion Capital”). Michael Marks, Jim Davidson and Frit Wolff are members of the investment committee of Paxion Partners and may be deemed to share voting and dispositive power over the shares held by Paxion Capital. The address for Paxion Capital is 2494 Sand Hill Road, Suite 100, Menlo Park, CA 94025.

(7) Includes (a) 705,873 shares held by Farajollah Aalaei Living Trust dtd. 1/14/2000, (b) 663,461 shares held by Lindenwood Trust, (c) 5,000 shares held by Ali A. Aalaei, (d) 5,000 shares held by Dariush Aalaei, (e) 5,000 shares held by Cyrus Akbarpour, as Custodian for Dena Aalaei under the California State Uniform Transfers to Minors Act and (f) 473,205 shares underlying options that are exercisable within 60 days of August 31, 2017, 187,818 of which are subject to a repurchase right in our favor as of August 31, 2017.

(8) Includes (a) 40,140 shares held by Mark Voll and (b) 92,273 shares underlying options that are exercisable within 60 days of August 31, 2017, 81,354 of which are subject to a repurchase right in our favor as of August 31, 2017.

(9) Includes (a) 467,930 shares held by Ramin Shirani and (b) 330,000 shares underlying options that are exercisable within 60 days from August 31, 2017, 298,333 of which are subject to a repurchase right in our favor as of August 31, 2017.

(10) Includes (a) 176,666 shares held by Kamal and Maneesha Dalmia, Husband and Wife as community property and (b) 90,833 shares subject to options that are exercisable within 60 days from August 31, 2017, 85,144 of which are subject to a repurchase right in our favor as of August 31, 2017.

(11) Includes (a) 185,774 shares held by Sam Srinivasan, (b) 58,823 shares held by the Srinivasan Family Trust dated 7/1/1992 and (c) 2,000 shares underlying options that are exercisable within 60 days of August 31, 2017.

(12) Includes 37,000 shares subject to options that are exercisable with 60 days from August 31, 2017.

(13) Includes (a) 7,618,564 shares held by our directors and executive officers, (b) 1,025,311 shares underlying options that are exercisable within 60 days of August 31, 2017 and (c) 214,396 shares issuable upon the exercise of warrants. 652,649 of the shares underlying options are subject to a repurchase right in our favor as of August 31, 2017. The address for each of our directors and officers is c/o Aquantia Corp., 105 E. Tasman Drive, San Jose, CA 95134.

On August 25, 2017, (a) entities affiliated with Greylock Partners, (b) entities affiliated with Lightspeed Ventures and (c) entities affiliated with New Enterprise Associates sold, in a privately negotiated transaction, an aggregate of 6,730,007 shares of preferred stock (representing approximately 26% of our outstanding common stock on a pro-forma basis as of June 30, 2017) for an aggregate purchase price of approximately $58.0 million to a consortium of purchasers, including the following purchasers and certain entities and individuals affiliated therewith: Aquan LLC, Walden International, Paxion Capital, Faraj Aalaei, our chief executive officer and a director, Mark Voll, our chief financial officer, and Sam Srinivasan, a member of our board of directors. Lip-Bu Tan, our lead independent director, is a member of the investment committee of WRV GP II and WR GP, the general partners of WRV II and WRV, respectively. In addition, in connection with this transaction, Paxion Capital obtained a right to designate a member of our board of directors.

(14)

Description of Capital Stock

DESCRIPTION OF CAPITAL STOCK The following is a summary of the rights of our common and preferred stock and some of the provisions of our amended and restated certificate of incorporation and amended and restated bylaws, which will become effective immediately prior to the closing of this offering, and of the Delaware General Corporation Law. This summary is not complete. For more detailed information, please see our amended and restated certificate of incorporation and amended and restated bylaws, which are filed as exhibits to the registration statement of which this prospectus is a part, as well as the relevant provisions of the Delaware General Corporation Law.

General

Upon the closing of this offering and the filing and effectiveness of our amended and restated certificate of incorporation, our authorized capital stock will consist of 400,000,000 shares of common stock, par value $0.00001 per share, and 10,000,000 shares of preferred stock, par value $0.00001 per share. All of our authorized preferred stock upon the closing of this offering will be undesignated.

Common Stock

Outstanding Shares

On June 30, 2017, there were 4,686,326 shares of common stock outstanding held by 178 stockholders of record. Based on such number of shares of common stock outstanding as of June 30, 2017, and assuming the conversion of all outstanding shares of our convertible preferred stock into 20,816,754 shares of common stock immediately prior to the closing of this offering upon the closing of this offering and assuming no exercise by the underwriters of their option to purchase additional shares, shares of common stock will be outstanding.

As of June 30, 2017, there were 3,882,957 shares of common stock subject to outstanding options under our equity incentive plans.

Voting

Our common stock is entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders, including the election of directors, and does not have cumulative voting rights. Accordingly, the holders of a majority of the shares of our common stock entitled to vote in any election of directors can elect all of the directors standing for election.

Dividends

Subject to preferences that may be applicable to any then outstanding preferred stock, the holders of common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of preferred stock.

Rights and Preferences

Holders of our common stock have no preemptive, conversion or subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate and issue in the future.

Fully Paid and Nonassessable

All of our outstanding shares of common stock are, and the shares of common stock to be issued in this offering will be, fully paid and nonassessable.

Preferred Stock

As of June 30, 2017, we had outstanding an aggregate of 208,004,878 shares of convertible preferred stock held of record by 82 stockholders.

Immediately prior to the closing of this offering, all outstanding shares of convertible preferred stock will convert into 20,816,754 shares of our common stock.

Upon the closing of this offering, our certificate of incorporation will be amended and restated to delete all references to such shares of convertible preferred stock. Under the amended and restated certificate of incorporation, our board of directors will have the authority, without further action by the stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations or restrictions thereon 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.

Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of the common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control that may otherwise benefit holders of our common stock and may adversely affect the market price of the common stock and the voting and other rights of the holders of common stock. We have no current plans to issue any shares of preferred stock.

Stock Options

As of June 30, 2017, 3,882,957 shares of common stock were issuable upon the exercise of outstanding stock options, at a weighted-average exercise price of $4.44 per share. For additional information regarding terms of our equity incentive plans, see the section titled "Executive Compensation—Equity Incentive Plans."

Warrants

As of June 30, 2017, convertible preferred stock warrants (excluding our Series C-1 convertible preferred stock warrant) to purchase 2,340,816 shares of convertible preferred stock at a weighted-average exercise price of $1.03 per share and our Series C-1 convertible preferred stock warrant to purchase 3,006,088 shares of Series C-1 convertible preferred at an exercise price of $0.01 per share were outstanding. These warrants will be converted into warrants to purchase an aggregate of 584,148 shares of our common stock immediately prior to the closing of this offering.

Registration Rights

Following the closing of this offering, certain holders of our common stock, common stock issuable upon conversion of outstanding preferred stock and shares of preferred stock subject to outstanding warrants, or their transferees, will be entitled to the registration rights set forth below with respect to registration of the resale of such shares under the Securities Act pursuant to the investors' rights agreement by and among us and certain of our stockholders. We will pay the registration expenses, other than underwriting discounts and commissions, of the shares registered pursuant to the demand, piggyback, and Form S-3 registrations described below, including the legal fees payable to one selling holders' counsel.

Generally, in an underwritten offering, the managing underwriter, if any, has the right, subject to specified conditions, to limit the number of shares such holders may include. The demand, piggyback, and Form S-3 registration rights described below will expire upon the earlier of (1) the date that is five years after the closing date of this offering and (2) the date that a holder may sell all of their shares in a three-month period under Rule 144 of the Exchange Act, this offering has been closed and such holder holds less than 1% of our outstanding common stock.

Demand Registration Rights

The holders of 21,861,219 shares of our common stock, common stock issuable upon conversion of outstanding preferred stock and stock subject to outstanding warrants as of June 30, 2017, will be entitled to certain demand registration rights. At any time beginning on the earlier of the third anniversary of the date of the investors' rights agreement or nine months following the effectiveness of this registration statement, the holders of at least 20% of these shares may, on not more than two occasions, request that we register all or a portion of their shares, subject to certain specified exceptions. Such request for registration must cover at least 20% of the registrable securities then outstanding for an aggregate offering price equal or greater than $5.0 million.

Piggyback Registration Rights

In connection with this offering, the holders of 21,880,902 shares of our common stock, common stock issuable upon conversion of outstanding preferred stock and stock subject to outstanding warrants as of June 30, 2017, were entitled to, and the necessary percentage of holders waived, their rights to notice of this offering and to include their shares of registrable securities in this offering. In the event that we propose to register any of our securities under the Securities Act in another offering, either for our own account or for the account of other security holders, the holders of these shares will be entitled to certain "piggyback" registration rights allowing them to include their shares in such registration, subject to certain marketing and other limitations. As a result, whenever we propose to file a registration statement under the Securities Act, including a registration statement on Form S-3 as discussed below, other than with respect to a demand registration or a registration statement relating solely to employee benefit plans, related to the offer and sale of debt securities, a registration relating to a corporate reorganization or transaction covered by Rule 145 under the Securities Act, or any registration that does not permit secondary sales, the holders of these shares are entitled to notice of the registration and have the right, subject to limitations that the underwriters may impose on the number of shares included in the registration, to include their shares in the registration.

S-3 Registration Rights

The holders of 21,880,902 shares of our common stock, stock issuable upon conversion of outstanding preferred stock and stock subject to outstanding warrants as of June 30, 2017, will be entitled to certain Form S-3 registration rights. Holders of these shares can make a request that we register their shares on Form S-3 if we are qualified to file a registration statement on Form S-3, subject to specified exceptions. Such request for registration on Form S-3 must cover securities with an aggregate offering price which equals or exceeds $1.0 million. We will not be required to effect more than two registrations on Form S-3 within any 12-month period.

Anti-Takeover Effects of Provisions of Our Certificate of Incorporation, Our Bylaws and Delaware Law

Delaware Anti-Takeover Law

We are subject to Section 203 of the Delaware General Corporation Law, or Section 203. Section 203 generally prohibits a public Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or 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 number of shares outstanding (but not the outstanding voting stock owned by the interested stockholder) shares owned (a) by persons who are directors and also officers and (b) by 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
- upon or subsequent to the consummation of the transaction, the business combination is approved by the board and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation to or with the interested stockholder;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation owned by the interested stockholder;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Because our stockholders do not have cumulative voting rights, our stockholders holding a majority of the voting power of our shares of common stock outstanding will be able to elect all of our directors. Our amended and restated certificate of incorporation and amended and restated bylaws to be effective immediately prior to the closing of this offering will provide that all stockholder actions must be effected at a duly called meeting of stockholders and not by written consent. A special meeting of stockholders may be called by the majority of our whole board of directors, chair of our board of directors or our chief executive officer.

As described above in "Management—Board Composition," in accordance with our amended and restated certificate of incorporation effective immediately prior to the closing of this offering, our board of directors will be divided into three classes with staggered three-year terms.

In addition, our amended and restated certificate of incorporation and amended and restated bylaws will provide that the number of directors constituting our board of directors will be permitted to be set only by a resolution adopted by a majority vote of our entire board of directors, and that our directors may be removed only for cause. Our amended and restated certificate of incorporation and amended and restated bylaws will also provide that vacancies occurring on our board of directors and newly created directorships resulting from an increase in the authorized number of directors may be filled only by vote of a majority of the remaining members of our board of directors, even though less than a quorum. Our amended and restated certificate of incorporation and amended and restated bylaws will provide that our board of directors is expressly authorized to adopt, amend or repeal our bylaws, and require a supermajority stockholder vote to amend our bylaws and certain provisions of our certificate of incorporation.

Our amended and restated bylaws will provide advance notice procedures for stockholders seeking to bring business before our annual meeting of stockholders or to nominate candidates for election as directors at our annual meeting of stockholders. Our amended and restated bylaws will also specify certain requirements regarding the form and content of a stockholder's notice. These provisions might preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders if the proper procedures are not followed. We expect that these provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.

The foregoing provisions will make it more difficult for our existing stockholders to replace our board of directors as well as for another party to obtain control of us by replacing our board of directors. Since our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to affect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage certain types of transactions that may involve an actual or threatened acquisition of us. These provisions are also designed to reduce our vulnerability to an unsolicited acquisition proposal and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of deterring hostile takeovers or delaying changes in our control or management. As a consequence, these provisions also may inhibit fluctuations in the market price of our stock that could result from actual or rumored takeover attempts.

Choice of Forum

Our amended and restated certificate of incorporation will provide that the Court of Chancery of the State of Delaware will be the exclusive forum for any derivative action or proceeding brought on our behalf; any action asserting a breach of fiduciary duty; any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our amended and restated certificate of incorporation or our bylaws; or any action asserting a claim against us that is governed by the internal affairs doctrine. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that a court could find these types of provisions to be inapplicable or unenforceable.

Listing

We have applied to list our common stock on the New York Stock Exchange under the symbol "AQ."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent and registrar's address is 250 Royall Street, Canton, Massachusetts 02021 and the telephone number is 1-800-962-4284.

Shares Eligible for Future Sale

SHARES ELIGIBLE FOR FUTURE SALE Immediately prior to this offering, there has been no public market for our common stock. Future sales of substantial amounts of common stock in the public market could adversely affect prevailing market prices. Furthermore, since only a limited number of shares will be available for sale shortly after this offering because of contractual and legal restrictions on resale described below, sales of substantial amounts of common stock in the public market after the restrictions lapse could adversely affect the prevailing market price for our common stock as well as our ability to raise equity capital in the future.

Based on the number of shares of common stock outstanding as of December 31, 2016, upon the closing of this offering, shares of common stock will be outstanding, assuming (1) no exercise of the underwriters' option to purchase additional shares to cover any over-allotments and (2) no exercise of outstanding options or warrants. All of the shares sold in this offering will be freely tradable unless purchased by our "affiliates" as that term is defined in Rule 144 under the Securities Act or purchased by existing stockholders and their affiliated entities who are subject to lock-up agreements. The remaining shares of common stock outstanding after this offering will be restricted as a result of securities laws or lock-up agreements. These remaining shares will generally become available for sale in the public market as follows:

- No restricted shares will be eligible for immediate sale upon the closing of this offering; and
- Up to restricted shares will be eligible for sale under Rule 144 or Rule 701, subject to the volume limitations, manner of sale and notice provisions described below under "Rule 144," upon expiration of lock-up agreements at least 180 days after the date of this offering.

Rule 144

In general, under Rule 144 as currently in effect, beginning 90 days after the effective date of the registration statement of which this prospectus is a part, any person who is not an affiliate of ours and has held their shares for at least nine months, including the holding period of any prior owner other than one of our affiliates, may sell shares without restriction, provided current public information about us is available. In addition, under Rule 144, any person who is not an affiliate of ours and has held their shares for at least one year, including the holding period of any prior owner other than one of our affiliates, would be entitled to sell an unlimited number of shares immediately upon the closing of this offering without regard to whether current public information about us is available.

Beginning 90 days after the effective date of the registration statement of which this prospectus is a part, a person who is an affiliate of ours and who has beneficially owned restricted securities for at least nine months, including the holding period of any prior owner other than one of our affiliates, is entitled to sell a number of restricted shares within any three-month period that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately shares immediately after this offering; or
- the average weekly trading volume of our common stock on during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale.

Sales of restricted shares under Rule 144 held by our affiliates are also subject to requirements regarding the manner of sale, notice and the availability of current public information about us. Rule 144 also provides that affiliates relying on Rule 144 to sell shares of our common stock that are not restricted shares must nonetheless comply with the same restrictions applicable to restricted shares, other than the holding period requirement.

Notwithstanding the availability of Rule 144, the holders of substantially all of our restricted shares have entered into lock-up agreements as described below and their restricted shares will become eligible for sale at the expiration of the restrictions set forth in those agreements.

Rule 701

Under Rule 701, shares of our common stock acquired upon the exercise of currently outstanding options or pursuant to other rights granted under our stock plans may be resold by:

- persons other than affiliates, beginning 90 days after the effective date of the registration statement of which this prospectus is a part, subject only to the manner-of-sale provisions of Rule 144; and
- our affiliates, beginning 90 days after the effective date of the registration statement of which this prospectus is a part, subject to the manner-of-sale and volume limitations, current public information and filing requirements of Rule 144, in each case, without compliance with the six-month holding period requirement of Rule 144.

Most of our employees, executive officers and directors who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions set forth above. However, substantially all such shares are subject to contractual lock-up agreements with us or the underwriters described in the section titled "Underwriting" and will become eligible for sale in accordance with Rule 701 at the expiration of those agreements.

Lock-Up Agreements

We, along with our directors, executive officers and substantially all of our other stockholders, optionholders, convertible noteholders and warrantholders, have agreed with the underwriters that for a period of 180 days (the restricted period) after the date of this prospectus, subject to specified exceptions, we and they will not, without the prior written consent of Morgan Stanley & Co. LLC, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock, or enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock. At any time and without public notice, Morgan Stanley & Co. LLC, as representative of the underwriters, may in its discretion release shares subject to the lock-up agreements prior to the expiration of this 180-day lock-up period.

Upon expiration of the "restricted" period, certain of our stockholders and warrantholders will have the right to require us to register their shares under the Securities Act. See "—Registration Rights" below and the section titled "Description of Capital Stock—Registration Rights."

After this offering, certain of our employees, including our executive officers and/or directors, may enter into written trading plans that are intended to comply with Rule 10b5-1 under the Exchange Act. Sales under these trading plans would not be permitted until the expiration of the lock-up agreements relating to the offering described above.

Form S-8 Registration Statements

As soon as practicable after the closing of this offering, we intend to file with the SEC one or more registration statements on Form S-8 under the Securities Act to register the offer and sale of shares of our common stock that are issuable pursuant to the 2004 Plan, the 2015 Plan, the 2017 Plan and the ESPP. These registrations statements will become effective immediately upon filing. Shares covered by these registration statements will then be eligible for sale in the public markets, subject to vesting restrictions, any applicable lock-up agreements described above and Rule 144 limitations applicable to affiliates.

Registration Rights

Upon the closing of this offering, the holders of 21,880,902 shares of our common stock will be entitled to rights with respect to the registration of their shares under the Securities Act, subject to the lock-up agreements described under "—Lock-Up Agreements" above. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares purchased by affiliates, immediately upon the effectiveness of the registration statement of which this prospectus is a part. Any sales of securities by these stockholders could have a material adverse effect on the trading price of our common stock. See "Description of Capital Stock—Registration Rights."

Material U.S. Federal Income Tax Consequences to Non-U.S. Holders of Our Common Stock

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES

To Non-u.s. Holders of Our Common Stock

The following is a summary of certain material U.S. federal income tax considerations relating to the acquisition, ownership, and disposition of common stock pursuant to this offering by non-U.S. holders (as defined below). This summary deals only with common stock held as a capital asset (within the meaning of Section 1221 of the Code) and does not discuss the U.S. federal income tax considerations applicable to a non-U.S. holder that is subject to special treatment under U.S. federal income tax laws, including, but not limited to: a dealer in securities or currencies; a broker-dealer; a financial institution; a qualified retirement plan, individual retirement plan or other tax-deferred account; a regulated investment company; a real estate investment trust; a tax-exempt organization; an insurance company; a person holding common stock as part of a hedging, integrated, conversion, or straddle transaction or a person deemed to sell common stock under the constructive sale provisions of the Code; a trader in securities that has elected the mark-to-market method of accounting; an entity that is treated as a partnership for U.S. federal income tax purposes; a person that received such common stock in connection with services provided; a corporation that accumulates earnings to avoid U.S. federal income tax; a corporation

organized outside the United States, any state thereof or the District of Columbia that is nonetheless treated as a United States taxpayer for U.S. federal income tax purposes; a person that is not a non-U.S. holder; a "controlled foreign corporation;" a "passive foreign investment company;" or a U.S. expatriate.

This summary is based upon provisions of the Code, its legislative history, applicable U.S. Treasury regulations promulgated thereunder, published rulings, and judicial decisions, all as in effect as of the date hereof. We have not sought, and will not seek, any ruling from the Internal Revenue Service, or IRS, with respect to the tax consequences discussed herein, and there can be no assurance that the IRS will not take a position contrary to the tax consequences discussed below or that any position taken by the IRS would not be sustained. Those authorities may be repealed, revoked or modified, perhaps retroactively, or may be subject to differing interpretations, which could result in U.S. federal income tax consequences different from those discussed below. This summary does not address all aspects of U.S. federal income tax, does not deal with all tax considerations that may be relevant to stockholders in light of their personal circumstances, and does not address the Medicare tax imposed on certain investment income or any state, local, foreign, gift, estate (except to the limited extent set forth herein), or alternative minimum tax considerations.

For purposes of this discussion, a "U.S. holder" is a beneficial holder of common stock that is for U.S. federal income tax purposes: an individual citizen or resident of the United States; a corporation (or any other entity treated as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia; an estate the income of which is subject to U.S. federal income taxation regardless of its source; or a trust if it (1) is subject to the primary supervision of a court within the United States and one or more U.S. persons have the authority to control all substantial decisions of the trust or (2) was in existence on August 20, 1996 and has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

For purposes of this discussion a "non-U.S. holder" is a beneficial owner of common stock that is neither a U.S. holder nor a partnership (or any other entity or arrangement that is treated as a partnership) for U.S. federal income tax purposes regardless of its place of organization or formation. If a partnership (or an entity or arrangement that is treated as a partnership for U.S. federal income tax purposes) holds common stock, the tax treatment of a partner will generally depend upon the status of the partner and the activities of the partnership. A partner of a partnership holding common stock is urged to consult its own tax advisors.

PROSPECTIVE INVESTORS ARE URGED TO CONSULT THEIR OWN TAX ADVISORS CONCERNING THE U.S. FEDERAL INCOME, ESTATE, AND OTHER TAX CONSEQUENCES OF ACQUIRING, OWNING AND DISPOSING OF OUR COMMON STOCK IN LIGHT OF THEIR SPECIFIC SITUATIONS, AS WELL AS THE TAX CONSEQUENCES ARISING UNDER ANY STATE, LOCAL, OR NON-U.S. TAX LAWS AND ANY OTHER U.S. FEDERAL TAX LAWS (INCLUDING THE U.S. FEDERAL ESTATE AND GIFT TAX LAWS).

Distributions on Our Common Stock

Distributions with respect to common stock, if any, generally will constitute dividends for U.S. federal income tax purposes to the extent paid out of current or accumulated earnings and profits, as determined for U.S. federal income tax purposes. Any portion of a distribution in excess of current or accumulated earnings and profits will be treated as a return of capital and will first be applied to reduce the holder's tax basis in its common stock, but not below zero. Any remaining amount will then be treated as gain from the sale or exchange of the common stock and will be treated as described under the section entitled "—Disposition of Our Common Stock" below.

Distributions treated as dividends that are paid to a non-U.S. holder, if any, with respect to shares of our common stock will be subject to U.S. federal withholding tax at a rate of 30% (or such lower rate as may be specified in an applicable income tax treaty) of the gross amount of the dividends unless the dividends are effectively connected with the non-U.S. holder's conduct of a trade or business in the United States subject to the discussion below regarding foreign accounts. If a non-U.S. holder is engaged in a trade or business in the United States and dividends with respect to the common stock are effectively connected with the conduct of that trade or business and, if required by an applicable income tax treaty, are attributable to a U.S. permanent establishment, then although the non-U.S. holder will generally be exempt from the 30% U.S. federal withholding tax, provided certain certification requirements are satisfied, the non-U.S. holder will be subject to U.S. federal income tax on those dividends on a net income basis at regular graduated U.S. federal income tax rates in the same manner as if such holder were a resident of the United States. Any such effectively connected income received by a foreign corporation may, under certain circumstances, be subject to an additional branch profits tax equal to 30% (or lower applicable income tax treaty rate) of its effectively connected earnings and profits for the taxable year, as adjusted under the Code. To claim the exemption from withholding with respect to any such effectively connected income, the non-U.S. holder must generally furnish to us or our paying agent a properly executed IRS Form W-8ECI (or applicable successor form). In the case of a non-U.S. holder that is an entity, Treasury Regulations and the relevant tax treaty provide rules to determine whether, for purposes of determining the applicability of a tax treaty, dividends will be treated as paid to the entity or to those holding an interest in that entity. If a non-U.S. holder holds stock through a financial institution or other agent acting on the holder's behalf; the holder will be required to provide appropriate documentation to such agent. Such holder's agent will then be required to provide certification to us or our paying agent.

A non-U.S. holder of shares of common stock who wishes to claim the benefit of a reduced rate of withholding tax under an applicable treaty must furnish to us or our paying agent a valid IRS Form W-8BEN or IRS Form W-8BEN-E (or applicable successor form) certifying such holder's qualification for the exemption or reduced rate. If a non-U.S. holder is eligible for a reduced rate of U.S. withholding tax pursuant to an income tax treaty and does not timely file the required certification, it may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. holders are urged to consult their tax advisors regarding their entitlement to benefits under a relevant income tax treaty.

Disposition of Our Common Stock

Subject to the discussion below regarding backup withholding and foreign accounts, a non-U.S. holder generally will not be subject to U.S. federal income tax on any gain from a sale, exchange or other disposition of our stock unless: (i) that gain is effectively connected with the non-U.S. holder's conduct of a trade or business in the United States (and, if required by an applicable income tax treaty, is attributable to a U.S. permanent establishment maintained by the non-U.S. holder); (ii) the non-U.S. holder is a nonresident alien individual who is present in the United States for 183 days or more in the taxable year of that disposition, and certain other conditions are met; or (iii) we are or have been a "United States real property holding corporation" within the meaning of Code Section 897(c)(2) for U.S. federal income tax purposes at any time during the shorter of the five-year period preceding the date of disposition or the holder's holding period for our common stock, and certain other requirements are met. Although there can be no assurance, we believe that we are not and we do not anticipate becoming a United States real property holding corporation for U.S. federal income tax purposes. Even if we are treated as a United States real property holding corporation, gain realized by a non-U.S. holder on a disposition of our common stock will not be subject to U.S. federal income tax so long as (1) the non-U.S. holder owned, directly, indirectly and constructively, no more than five percent of our common stock at all times within the shorter of (x) the five-year period preceding the disposition or (y) the holder's holding period and (2) our common stock is regularly traded on an established securities market. There can be no assurance that our common stock will continue to qualify as regularly traded on an established securities market. If any gain on your disposition is taxable because we are a United States real property holding corporation and your ownership of our common stock exceeds five percent, you will be taxed on such disposition generally in the manner applicable to U.S. persons and in addition, a purchaser of your common stock may be required to withhold tax with respect to that obligation.

If a non-U.S. holder as is described in clause (i) of the preceding paragraph, such non-U.S. holder will generally be subject to tax on the net gain derived from the disposition at the regular graduated U.S. federal income tax rates in the same manner as if such non-U.S. holder were a U.S. person, unless an applicable income tax treaty provides otherwise. In addition, a non-U.S. holder that is a corporation may be subject to the branch profits tax at a rate equal to 30% (or lower applicable income tax treaty rate) of its effectively connected earnings and profits. If a non-U.S. holder is an individual described in clause (ii) of the preceding paragraph, such non-U.S. holder will generally be subject to a flat 30% tax on the gain derived from the disposition, which may be offset by U.S. source capital losses even though such non-U.S. holder is not considered a resident of the United States, provided that such non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses.

U.S. Federal Estate Tax

The estate of a nonresident alien individual is generally subject to U.S. federal estate tax on property it is treated as the owner of, or has made certain life transfers of, having a U.S. situs. Because we are a U.S. corporation, our common stock will be U.S. situs property and therefore will be included in the taxable estate of a nonresident alien decedent for U.S. federal estate tax purposes, unless an applicable estate tax treaty between the United States and the decedent's country of residence provides otherwise.

Information Reporting and Backup Withholding Tax

We report to our non-U.S. holders and the IRS certain information with respect to any dividends we pay on our common stock, including the amount of dividends paid during each fiscal year, the name and address of the recipient, and the amount, if any, of tax withheld. All distributions to holders of common stock are subject to any applicable withholding. Information reporting requirements apply even if no withholding was required because the distributions were effectively connected with the non-U.S. holder's conduct of a U.S. trade or business or withholding was reduced by an applicable income tax treaty. This information also may be made available under a specific treaty or agreement with the tax authorities in the country in which the non-U.S. holder resides or is established. Under U.S. federal income tax law, interest, dividends, and other reportable payments may, under certain circumstances, be subject to "backup withholding" at the then applicable rate (currently, 28%). Backup withholding, however, generally will not apply to distributions on our common stock to a non-U.S. holder, provided the non-U.S. holder furnishes to us or our paying agent the required certification as to its non-U.S. status, such as by providing a valid IRS Form W-8BEN, IRS Form W-8BEN-E or IRS Form W-8ECI, or certain other requirements are met. Notwithstanding the foregoing, backup withholding may apply if either we or our paying agent has actual knowledge, or reason to know, that the holder is a U.S. person that is not an exempt recipient. Backup withholding is not an additional tax but merely an advance payment, which may be credited against the tax liability of persons subject to backup withholding or refunded to the extent it results in an overpayment of tax and the appropriate information is timely supplied to the IRS.

Foreign Accounts

Certain withholding taxes may apply to certain types of payments made to "foreign financial institutions" (as specially defined under these rules) and certain other non-U.S. entities if certification, information reporting and other specified requirements are not met. A 30% withholding tax may apply to "withholdable payments" if they are paid to a foreign financial institution or to a foreign nonfinancial entity, unless (i) the foreign financial institution undertakes certain diligence and reporting obligations and other specified requirements are satisfied or (ii) the foreign non-financial entity either certifies it does not have any substantial U.S. owners or furnishes identifying information regarding each substantial U.S. owner and other specified requirements are satisfied. "Withholdable payment" generally means (i) any payment of interest, dividends, rents, and certain other types of generally passive income if such payment is from sources within the United States, and (ii) any gross proceeds from the sale or other disposition of any property of a type that can produce interest or dividends from sources within the United States (including, for example, stock and debt of U.S. corporations). If the payee is a foreign financial institution, it must enter into an agreement with the U.S. Treasury requiring, among other things, that it undertake to identify accounts held by certain U.S. persons or U.S.-owned foreign entities, annually report certain information about such accounts and withhold 30% on payments to account holders whose actions prevent it from complying with these reporting and other requirements, or comply with comparable requirements under an applicable inter-governmental agreement between the United States and the foreign financial institution's home jurisdiction. If an investor does not provide us with the information necessary to comply with these rules, it is possible that distributions to such investor that are attributable to withholdable payments, such as dividends, will be subject to the 30% withholding tax. Withholding on certain passive income, such as dividends and interest, began on July 1, 2014 and will apply to all other withholdable payments, including payments of gross proceeds from a sale or other disposition of common stock, on or after January 1, 2019. Holders should consult their own tax advisers regarding the implications of these rules for their investment in our common stock.

Underwriting

UNDERWRITING Under the terms and subject to the conditions in an underwriting agreement dated the date of this prospectus, the underwriters named below, for whom Morgan Stanley & Co. LLC is acting as representative, have severally agreed to purchase, and we have agreed to sell to them, severally, the number of shares indicated below:

Name	Number ofShares
Morgan Stanley & Co. LLC	
Barclays Capital Inc.	
Deutsche Bank Securities Inc.	
Needham & Company, LLC	
Raymond James & Associates, Inc.	
Total:	

The underwriters are offering the shares of common stock subject to their acceptance of the shares from us and subject to prior sale. The underwriting agreement provides that the obligations of the several underwriters to pay for and accept delivery of the shares of common stock offered by this prospectus are subject to the approval of certain legal matters by their counsel and to certain other conditions. The underwriters are obligated to take and pay for all of the shares of common stock offered by this prospectus if any such shares are taken. However, the underwriters are not required to take or pay for the shares covered by the underwriters' over-allotment option described below.

The underwriters initially propose to offer part of the shares of common stock directly to the public at the offering price listed on the cover page of this prospectus and part to certain dealers, at such offering price less a selling concession not in excess of $ per share. After the initial offering of the shares of common stock, the offering price and other selling terms may from time to time be varied by the representative. The offering of the shares by the underwriters is subject to receipt and acceptance and subject to the underwriters' right to reject any order in whole or in part.

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase up to additional shares of common stock at the public offering price listed on the cover page of this prospectus, less underwriting discounts and commissions. The underwriters may exercise this option solely for the purpose of covering over-allotments, if any, made in connection with the offering of the shares of common stock offered by this prospectus. To the extent the option is exercised, each underwriter will

become obligated, subject to certain conditions, to purchase about the same percentage of the additional shares of common stock as the number listed next to the underwriter's name in the preceding table bears to the total number of shares of common stock listed next to the names of all underwriters in the preceding table.

The following table shows the per share and total public offering price, underwriting discounts and commissions, and proceeds before expenses to us. These amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase up to an additional shares of common stock from us.

		Total	
	Per Share	No Exercise	Full Exercise
Public offering price		$$	$
Underwriting discounts and commissions to be paid by us			
Proceeds, before expenses, to us			

The estimated offering expenses payable by us, exclusive of the underwriting discounts and commissions, are approximately $, which includes legal, accounting and printing costs, and various other fees associated with the registration and listing of our common stock. We have agreed to reimburse the underwriters for certain Financial Industry Regulatory Authority, or FINRA, related expenses incurred by them in connection with the offering, up to $30,000 as set forth in the underwriting agreement.

The underwriters have informed us that they do not intend sales to discretionary accounts to exceed 5% of the total number of shares of common stock offered by them.

We have applied to have our common stock listed on the New York Stock Exchange under the trading symbol "AQ."

At our request, the underwriters have reserved up to shares of common stock, or up to % of the shares of common stock offered by this prospectus, for sale, at the initial public offering price, to our directors, officers, certain employees, business associates, and friends and family of our directors and officers. The number of shares of common stock available for sale to the general public will be reduced to the extent these individuals purchase such reserved shares. Any reserved shares that are not so purchased will be offered by the underwriters to the general public on the same basis as the other shares offered by this prospectus. The directed share program will be arranged through Morgan Stanley & Co. LLC.

We, all of our directors and officers and the holders of substantially all of our common stock and securities exercisable or convertible into our common stock outstanding immediately prior to this offering have agreed that, without the prior written consent of Morgan Stanley & Co. LLC on behalf of the underwriters, we and they will not, during the period ending 180 days after the date of this prospectus, or the restricted period:

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock; or
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock,

whether any such transaction described above is to be settled by delivery of common stock or such other securities, in cash or otherwise. In addition, we and each such person agrees that, without the prior written consent of Morgan Stanley & Co. LLC on behalf of the underwriters, we or such other person will not, during the restricted period, make any demand for, or exercise any right with respect to, the registration of any shares of common stock or any security convertible into or exercisable or exchangeable for common stock.

The restrictions described in the immediately preceding paragraph do not apply to, including, but not limited to:

- the sale of shares to the underwriters;
- the issuance by the Company of shares of common stock upon the exercise of an option or a warrant or the conversion of a security outstanding on the date of this prospectus of which the underwriters have been advised in writing;
- transactions by any person other than us relating to shares of common stock or other securities acquired in this offering from us or in open market transactions after the completion of this offering of the shares; provided that no filing under Section 16(a) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, is required or voluntarily made in connection with subsequent sales of the common stock or other securities acquired in such open market transactions;
- the transfer of shares of common stock or securities convertible into common stock pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction involving a change of

control that has been approved by our board of directors, provided that, in the event that such change of control transaction is not completed, this clause shall not be applicable and the shares of the party subject to the lock-up agreement shall remain subject to the restrictions contained in the lock-up agreement; or

- the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of common stock, provided that (i) such plan does not provide for the transfer of common stock during the restricted period and (ii) no public announcement or filing under the Exchange Act, regarding the establishment of such plan is required or voluntarily made during the restricted period.

Morgan Stanley & Co. LLC, in its sole discretion, may release the common stock and other securities subject to the lock-up agreements described above in whole or in part at any time with or without notice, provided that notice shall be provided as required by applicable law, rule or regulation.

In order to facilitate the offering of the common stock, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the common stock. Specifically, the underwriters may sell more shares than they are obligated to purchase under the underwriting agreement, creating a short position. A short sale is covered if the short position is no greater than the number of shares available for purchase by the underwriters under the over-allotment option. The underwriters can close out a covered short sale by exercising the over-allotment option or purchasing shares in the open market. In determining the source of shares to close out a covered short sale, the underwriters will consider, among other things, the open market price of shares compared to the price available under the over-allotment option. The underwriters may also sell shares in excess of the over-allotment option, creating a naked short position. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market after pricing that could adversely affect investors who purchase in this offering. As an additional means of facilitating this offering, the underwriters may bid for, and purchase, shares of common stock in the open market to stabilize the price of the common stock. The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

These activities may raise or maintain the market price of the common stock above independent market levels or prevent or retard a decline in the market price of the common stock. The underwriters are not required to engage in these activities and may end any of these activities at any time.

We, on the one hand, and the underwriters, on the other hand, have agreed to indemnify each other against certain liabilities, including liabilities under the Securities Act.

A prospectus in electronic format may be made available on websites maintained by one or more underwriters participating in this offering. The representative may agree to allocate a number of shares of common stock to underwriters for sale to their online brokerage account holders. Internet distributions will be allocated by the representative to underwriters that may make Internet distributions on the same basis as other allocations.

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. Certain of the underwriters and their respective affiliates may, in the future, perform various financial advisory and investment banking services for us, for which they will receive customary fees and expenses.

In addition, in the ordinary course of their various business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve our securities and instruments. The underwriters and their respective affiliates may also make investment recommendations or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long or short positions in such securities and instruments.

Pricing of the Offering

Prior to this offering, there has been no public market for our common stock. The initial public offering price will be determined by negotiations between us and the representative. Among the factors to be considered in determining the initial public offering price are our future prospects and those of our industry in general, our sales, earnings and certain other financial and operating information in recent periods, and the price-earnings ratios, price-sales ratios, market prices of securities, and certain financial and operating information of companies engaged in activities similar to ours.

Selling Restrictions

Canada

The common stock may be sold in Canada only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the common stock must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a Relevant Member State) an offer to the public of any shares of our common stock may not be made in that Relevant Member State, except that an offer to the public in that Relevant Member State of any shares of our common stock may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

(a) to any legal entity which is a qualified investor as defined in the Prospectus Directive;

(b) to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives for any such offer; or

(c) in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of shares of our common stock shall result in a requirement for the publication by us or any underwriter of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an "offer to the public" in relation to any shares of our common stock in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares of our common stock to be offered so as to enable an investor to decide to purchase any shares of our common stock, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression "Prospectus Directive" means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State, and the expression "2010 PD Amending Directive" means Directive 2010/73/EU.

United Kingdom

Each underwriter has represented and agreed that:

(a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (FSMA) received by it in connection with the issue or sale of the shares of our common stock in circumstances in which Section 21(1) of the FSMA does not apply to us; and

(b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the shares of our common stock in, from or otherwise involving the United Kingdom.

Hong Kong

The shares may not be offered or sold by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong), (ii) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap.571, Laws of Hong Kong) and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong), and no advertisement, invitation, or document relating to the shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed

or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (SFA), (ii) to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 by a relevant person which is: (a) a corporation (which is not an accredited investor) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor, shares, debentures and units of shares, and debentures of that corporation, or the beneficiaries' rights and interest in that trust shall not be transferable for six months after that corporation or that trust has acquired the shares under Section 275 except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA; (2) where no consideration is given for the transfer; or (3) by operation of law.

Japan

The securities have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (the Financial Instruments and Exchange Law) and each underwriter has agreed that it will not offer or sell any securities, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Law and any other applicable laws, regulations and ministerial guidelines of Japan.

Notice to Prospective Investors in Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (SIX) or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company, the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA), and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (CISA). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Notice to Prospective Investors in the Dubai International Financial Centre

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority (DFSA). This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

Notice to Prospective Investors in Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission (ASIC), in relation to the offering. This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001 (Corporations Act), and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the shares may only be made to persons (Exempt Investors) who are "sophisticated investors" (within the meaning of section 708(8) of the Corporations Act), "professional investors" (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

Legal Matters

LEGAL MATTERS The validity of the shares of common stock being offered by this prospectus will be passed upon for us by Cooley LLP, New York, New York. Pillsbury Winthrop Shaw Pittman LLP, Palo Alto, California, is acting as counsel to the underwriters in connection with certain legal matters relating to the shares of common stock offered by the prospectus.

Experts

EXPERTS

The consolidated financial statements as of December 31, 2015 and 2016 and for each of the three years in the period ended December 31, 2016 included in this prospectus have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report appearing herein. Such consolidated financial statements are included in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

Where You Can Find Additional Information

WHERE YOU CAN FIND ADDITIONAL INFORMATION We have filed with the SEC a registration statement on Form S-1, including exhibits and schedules, under the Securities Act, with respect to the shares of common stock being offered by this prospectus. This prospectus, which constitutes part of the registration statement, does not contain all of the information in the registration statement and its exhibits. For further information with respect to us and the common stock offered by this prospectus, we refer you to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

You can read our SEC filings, including the registration statement, over the Internet at the SEC's website at www.sec.gov. You may also read and copy any document we file with the SEC at its public reference facilities at 100 F Street, NE, Washington, D.C. 20549. You may also obtain copies of these documents at prescribed rates by writing to the Public Reference Section of the SEC at 100 F Street, NE, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference facilities. You may also request a copy of these filings, at no cost, by writing us at 105 E. Tasman Drive, San Jose, California 95134.

Upon the closing of this offering, we will be subject to the information reporting requirements of the Securities Exchange Act of 1934 and we will file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information will be available for inspection and copying at the public reference room and web site of the SEC referred to above. We also maintain a website at

www.aquantia.com, at which, following the closing of this offering, you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on or accessible through our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

AQUANTIA CORP.

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Report of Independent Registered Public Accounting Firm

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM To the Board of Directors and Stockholders of Aquantia Corp. and subsidiaries San Jose, California We have audited the accompanying consolidated balance sheets of Aquantia Corp. and its subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations and comprehensive loss, convertible preferred stock and stockholders' deficit, and cash flows for each of the three years in the period ended December 31, 2016. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

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

/s/ DELOITTE & TOUCHE LLP San Jose, California February 28, 2017 (May 16, 2017 as to Note 18 for the exercise of the warrants and October 5, 2017 as to Note 2 for the reverse stock split)

Consolidated Balance Sheets

AQUANTIA CORP.

Consolidated Balance Sheets

(Amounts in thousands, except share and per share data)

	As of December 31,		As of June 30,2017	Pro Forma As of June 30,2017
	2015	2016		
			(unaudited)	

Assets				
Current assets:				
Cash and cash equivalents	$34,290	$28,893	$17,369	$17,369
Short-term investments	—	—	900	900
Accounts receivable	7,052	11,495	14,041	14,041
Inventories	16,587	7,017	9,246	9,246
Prepaid expenses and other current assets	3,521	1,609	4,103	4,103
Total current assets	61,450	49,014	45,659	45,659
Property and equipment, net	4,267	8,122	8,137	8,137
Intangible assets, net	239	5,363	4,959	4,959
Other assets	609	3,210	4,127	4,127
Total assets	$66,565	$65,709	$62,882	$62,882
Liabilities, Convertible Preferred Stock and Stockholders' Equity (Deficit)				
Current liabilities:				
Accounts payable	$2,505	$4,757	$2,191	$2,191
Accrued liabilities	6,126	6,751	6,597	6,597
Deferred revenue, current	2,059	—	—	—
Long-term debt, current portion	7,454	11,238	12,377	12,377
Bank borrowings—line of credit	5,001	—	5,000	5,000
Total current liabilities	23,145	22,746	26,165	26,165
Long-term debt, net	16,454	6,991	974	974
Convertible preferred stock warrant liability	12,346	12,885	3,847	—
Other long-term liabilities	354	3,460	3,524	3,524
Total liabilities	52,299	46,082	34,510	30,663
Commitments and contingencies (Note 9)				
Convertible preferred stock:				
Convertible preferred stock, par value of $0.00001 per share; 213,351,797 shares authorized as of December 31, 2015, December 31, 2016 and June 30, 2017 (unaudited), respectively; 197,913,720, 198,248,718 and 208,004,878 shares issued and outstanding with aggregate liquidation preference of $189,796 as of December 31, 2015, December 31, 2016 and $203,761 as of June 30, 2017 (unaudited), respectively; no shares issued and outstanding as of June 30, 2017 pro forma (unaudited)	199,153	199,434	210,269	—
Stockholders' equity (deficit):				
Common stock, $0.00001 par value, 302,000,000, 307,000,000 and 316,000,000 shares authorized as of December 31, 2015, December 31, 2016 and June 30, 2017 (unaudited), respectively; 1,984,518, 4,443,698 and 4,686,326 shares outstanding at December 31, 2015, December 31, 2016 and June 30, 2017 (unaudited), respectively, and 25,503,080 shares outstanding as of June 30, 2017 pro forma (unaudited)	—	—	—	—
Additional paid-in capital	6,894	12,419	13,754	227,870
Accumulated other comprehensive loss	—	—	(2)	(2)
Accumulated deficit	(191,781)	(192,226)	(195,649)	(195,649)
Total stockholders' equity (deficit)	(184,887)	(179,807)	(181,897)	32,219
Total liabilities, convertible preferred stock and stockholders' equity (deficit)	$66,565	$65,709	$62,882	$62,882

See notes to consolidated financial statements.

Consolidated Statements of Operations and Comprehensive Loss

AQUANTIA CORP.

Consolidated Statements of Operations and Comprehensive Loss

(Amounts in thousands except share and per share data)

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
				(unaudited)	
Revenue	$24,500	$80,807	$86,675	$41,374	$48,807
Cost of revenue	16,189	41,511	34,064	16,183	20,959
Gross profit	8,311	39,296	52,611	25,191	27,848
Operating expenses:					
Research and development	27,343	25,262	36,553	17,301	20,944
Sales and marketing	2,142	3,756	5,347	2,873	3,456
General and administrative	4,403	6,284	7,124	3,796	4,475
Collaboration and development charge	—	12,024	—	—	—
Total operating expenses	33,888	47,326	49,024	23,970	28,875
Income (loss) from operations	(25,577)	(8,030)	3,587	1,221	(1,027)
Other income (expense):					
Interest expense	(2,164)	(3,321)	(3,334)	(1,871)	(1,016)
Change in fair value of convertible preferred stock warrant liability	(15)	1,591	(544)	78	(1,700)
Other income, net	12	5	14	3	28
Total other income (expense)	(2,167)	(1,725)	(3,864)	(1,790)	(2,688)
Loss before income tax expense	(27,744)	(9,755)	(277)	(569)	(3,715)
Provision for (benefit from) income taxes	56	200	168	106	(358)
Net loss attributable to common stockholders	$(27,800)	$(9,955)	$(445)	$(675)	$(3,357)
Net loss per share attributable to common stockholders, basic and diluted	$(24.83)	$(6.64)	$(0.10)	$(0.17)	$(0.74)
Weighted-average shares used to compute net loss per share, basic and diluted	1,119,632	1,498,233	4,240,461	4,055,411	4,549,015
Pro forma net income (loss) per share attributable to common stockholders, basic and diluted (unaudited)			$0.00		$(0.07)
Weighted-average shares used to compute pro forma net loss per share, basic (unaudited)			24,074,289		24,697,392
Weighted-average shares used to compute pro forma net income per share, diluted (unaudited)			28,465,903		24,697,392
Comprehensive income:					
Net loss attributable to common stockholders	$(27,800)	$(9,955)	$(445)	$(675)	$(3,357)
Other comprehensive income (loss), net of tax:					
Unrealized gains and losses—short-term investments	—	—	—	—	(2)
Comprehensive loss attributable to common stockholders	$(27,800)	$(9,955)	$(445)	$(675)	$(3,359)

See notes to consolidated financial statements.

Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit

AQUANTIA CORP.

Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit

(Amounts in thousands, except share amounts)

	Convertible Preferred Stock		Common Stock		Additional Paid-InCapital	Accumulated OtherComprehensiveloss	Accumulated Deficit	Total Stockholders'Deficit
	Shares	Amount	Shares	Amount				
BALANCE—January 1, 2015	172,065,442	$162,183	1,268,695	$—	$4,731	$—	$(181,826)	$(177,095)
Exercise of stock options	—	—	715,823	—	1,371	—	—	1,371
Issuance of Series H convertible preferred stock, net of issuance costs of $30	25,848,278	36,970	—	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	792	—	—	792
Net loss	—	—	—	—	—	—	(9,955)	(9,955)
BALANCE—December 31, 2015	197,913,720	199,153	1,984,518	—	6,894	—	(191,781)	(184,887)
Exercise of stock options	—	—	2,459,180	—	4,586	—	—	4,586
Issuance of Series A convertible preferred stock upon exercise of warrants	334,998	281	—	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	939	—	—	939
Net loss	—	—	—	—	—	—	(445)	(445)
BALANCE—December 31, 2016	198,248,718	199,434	4,443,698	—	12,419	—	(192,226)	(179,807)
Cumulative effect upon adoption of ASU 2016-09	—	—	—	—	66	—	(66)	—
Other comprehensive loss (unaudited)	—	—	—	—	—	(2)	—	(2)
Exercise of stock options (unaudited)	—	—	242,628	—	720	—	—	720

Issuance of Series H convertible preferred stock								
upon exercise of warrants (unaudited)	9,756,160	10,835	—	—	—	—	—	—
Stock-based compensation expense (unaudited)	—	—	—	—	549	—	—	549
Net loss (unaudited)	—	—	—	—	—	—	(3,357)	(3,357)
BALANCE—June 30, 2017 (unaudited)	208,004,878	$210,269	4,686,326	$—	$13,754	$(2)	$(195,649)	$(181,897)

See notes to consolidated financial statements.

Consolidated Statements of Cash Flows

AQUANTIA CORP.

Consolidated Statements of Cash Flows

(Amounts in thousands)

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
				(unaudited)	
Cash flows from operating activities					
Net loss	$(27,800)	$(9,955)	$(445)	$(675)	$(3,357)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:					
Depreciation and amortization	1,900	1,856	2,740	1,199	2,206
Stock-based compensation expense	858	792	939	449	549
Change in fair value of convertible preferred stock warrant liability	15	(1,591)	544	(78)	1,700
Issuance of convertible preferred stock warrants	—	12,074	—	—	—
Amortization of debt discount	207	630	636	329	205
Non-cash interest expense related to debt costs	41	600	552	302	113
Gain/loss on disposal of property and equipment	—	—	33	15	—
Changes in operating assets and liabilities:					
Accounts receivable	(98)	(5,206)	(4,443)	(3,504)	(2,546)
Inventories	6,838	(12,708)	9,570	6,112	(2,229)
Prepaid expenses and other assets	(4,360)	1,290	1,617	833	(2,997)
Accounts payable	1,130	351	2,198	551	(2,690)
Accrued and other liabilities	416	3,073	256	(335)	291
Deferred revenue	(3,125)	(2,718)	(2,059)	(2,059)	—

Net cash provided by (used in) operating activities	(23,978)	(11,512)	12,138	3,139	(8,755)
Cash flows from investing activities					
Purchases of property and equipment	(1,299)	(4,200)	(6,308)	(1,678)	(1,873)
Purchases of IP licenses	—	—	(2,129)	—	—
Disposal of property and equipment	—	26	6	5	—
Purchases of short-term investments	—	—	—	—	(902)
Net cash used in investing activities	(1,299)	(4,174)	(8,431)	(1,673)	(2,775)
Cash flows from financing activities					
Repayments on short and long-term borrowings	—	—	(6,560)	(1,603)	(5,054)
Repayments on line of credit	(3,860)	(15,205)	(5,001)	(5,001)	—
Proceeds from short and long-term borrowings	8,800	—	—	—	—
Debt issuance costs	(567)	(215)	—	—	—
Proceeds from line of credit	3,041	20,206	—	—	5,000
Proceeds from issuance of convertible preferred stock	20,000	37,000	—	—	—
Convertible preferred stock issuance costs	(71)	(30)	—	—	—
Proceeds from exercise of stock options and preferred stock warrants	335	1,371	4,861	4,699	817
Purchases of IP licenses	—	—	—	—	(130)
Payment of costs related to initial public offering	—	(207)	(2,404)	(1,791)	(627)
Net cash provided by (used in) financing activities	27,678	42,920	(9,104)	(3,696)	6
Net increase (decrease) in cash and cash equivalents	2,401	27,234	(5,397)	(2,230)	(11,524)
Cash and cash equivalents at beginning of period	4,655	7,056	34,290	34,290	28,893
Cash and cash equivalents at end of period	$7,056	$34,290	$28,893	$32,060	$17,369
Supplemental disclosures of cash flow information					
Cash paid for interest	$1,875	$2,041	$1,972	$1,065	$707
Cash paid for income taxes	$56	$92	$333	$50	$41
Non-cash financing and investing transactions					
Transfer of fair value of warrants to equity from liabilities upon warrant exercise	$—	$—	$—	$—	$10,738
Unpaid costs related to initial public offering	$—	$132	$340	$457	$269
Property and equipment received and accrued	$311	$205	$240	$123	$184
IP licenses accrued	$—	$—	$3,286	$—	—
Issuance of convertible preferred stock warrants	$173	$12,074	$—	$—	$—

See notes to consolidated financial statements.

Notes to Consolidated Financial Statements

AQUANTIA CORP.

Notes to Consolidated Financial Statements

1. Organization, Description of Business and Basis for Presentation

Organization—Aquantia Corp. (together with its subsidiaries, the "Company") was incorporated in Delaware on January 27, 2004. The Company is a leader in the design, development and marketing of advanced high-speed communications integrated circuits, or ICs, for Ethernet connectivity in the data center, enterprise infrastructure and access markets.

Basis of Presentation and Principles of Consolidation—The consolidated financial statements are prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP") and include the consolidated accounts of the Company and its wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going-concern, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. As shown in the consolidated financial statements, the Company has incurred net losses from inception through June 30, 2017, resulting in an accumulated deficit of approximately $195.6 million. In addition, the Company used cash for operating activities of $24.0 million, and $11.5 million for the years ended December 31, 2014 and 2015, respectively. For the year ended December 31, 2016, cash provided by operating activities was $12.1 million. For the six months ended June 30, 2017, cash used for operating activities was $8.8 million. The Company has financed its operations primarily from cash received from product sales, sales of convertible preferred stock, and debt financing. Based on expected cash flows generated from revenue, the Company believes that its existing cash and available line of credit will be sufficient to satisfy its anticipated cash requirements for the next 12 months.

2. Summary of Significant Accounting Policies

Unaudited Interim Consolidated Financial Statements—The accompanying consolidated balance sheet as of June 30, 2017, the consolidated statements of operations and comprehensive loss for each of the six months ended June 30, 2016 and 2017, the consolidated statement of convertible preferred stock and stockholders' deficit for the six months ended June 30, 2017, the consolidated statements of cash flows for each of the six months ended June 30, 2016 and 2017 and the related footnote disclosures are unaudited. The unaudited interim consolidated financial statements are presented in accordance with the rules and regulations of the Securities and Exchange Commission and do not include all disclosures normally required in annual consolidated financial statements prepared in accordance with U.S. GAAP. In the Company's opinion, these unaudited interim consolidated financial statements have been prepared on the same basis as the annual consolidated financial statements and reflect all adjustments, which include only normal recurring adjustments, necessary for the fair presentation of the Company's financial position as of June 30, 2017 and results of operations, comprehensive loss, and cash flows for each of the six months ended June 30, 2016 and 2017. The results for the six months ended June 30, 2017 are not necessarily indicative of the results to be expected for the year ending December 31, 2017 or for any other periods.

Use of Estimates—The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of expenses during the reporting period. Significant estimates used in the preparation of the consolidated financial statements include the fair value of the Company's common and convertible preferred stock and convertible preferred stock warrants, the valuation of deferred tax assets, uncertain tax positions, and useful lives of long-lived assets. These estimates and the underlying assumptions are based on management's best estimates and judgment. Management evaluates its estimates and assumptions on an ongoing basis using historical experience and other factors and adjusts such estimates and assumptions when facts and circumstances dictate. As future events and their effects cannot be determined with precision, actual results could differ significantly from these estimates.

Financial Instruments—Financial instruments held by the Company consist primarily of corporate bonds, U.S. government securities, commercial paper and money market funds. The Company considers all highly liquid financial instruments purchased with an original maturity or remaining maturities of three months or less at the date of purchase to be cash equivalents. All remaining financial instruments are classified as short-term investments. The Company's financial instruments are classified as available-for-sale. Unrealized gains and losses on securities, net of tax, are recorded in accumulated other comprehensive loss and reported as a separate component of stockholders' equity (deficit). Interest and dividend income and realized gains or losses are included in other income, net on the consolidated statements of operations and comprehensive loss.

The Company evaluates the investments periodically for possible other-than-temporary impairment and reviews factors such as the length of time and extent to which fair value has been below cost basis, the financial condition of the issuer, the Company's intent to hold and whether the Company will not be required to sell the security before its anticipated recovery, on a more-likely-than-not basis. If the

declines in the fair value of the investments are determined to be other-than-temporary, the Company reports the credit loss portion of such decline in other income, net and the remaining noncredit loss portion in accumulated other comprehensive loss. The cost of securities sold is based on the specific identification method.

Accounts Receivable—The Company's receivables are recorded when due and payable. The carrying value of the accounts receivable represents their estimated net realizable value.

Inventories—Inventories consist of processed wafers, work-in-process and finished goods and are stated at the lower of standard cost or net realizable value. Standard costs approximate actual costs and are based on a first-in, first-out basis. The Company performs detailed reviews of the net realizable value of inventories, both on hand as well as for inventories that it is committed to purchase and writes down the inventory value for estimated deterioration, excess and obsolete and other factors based on management's assessment of future demand and market conditions. Once written down, inventory write downs are not reversed until the inventory is sold or scrapped. For the year ended December 31, 2014 and 2015, inventory write-downs were $0.9 million and $0.8 million, respectively. For the year ended December 31, 2016 and the six months ended June 30, 2017, inventory write-downs were negligible.

Deferred Initial Public Offering Costs—Deferred initial public offering costs, consisting of direct and incremental legal, accounting and other fees and costs attributable to the Company's initial public offering and the preparation of the related registration statement, are capitalized. The deferred offering costs will be offset against the proceeds received upon the closing of the offering. In the event the offering does not occur in a timely manner, all of the deferred offering costs will be expensed within operations. The balance of other assets in the accompanying consolidated balance sheets includes $0.3 million, $2.9 million and $3.5 million of such costs at December 31, 2015 and 2016 and June 30, 2017, respectively.

Property and Equipment—Property and equipment is initially recorded at cost and depreciated using the straight-line method over the estimated useful lives of the assets. Leasehold improvements are amortized over the estimated useful life or the original lease term, whichever is shorter.

Intangible Assets—Intangible assets consist of patents and IP license and are amortized over their useful lives of 7-12 years using a straight-line amortization method.

Impairment of Long-Lived Assets—Long-lived assets, such as property and equipment and intangible assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized in the amount by which the carrying amount of the asset exceeds the undiscounted future cash flows. The Company has not recorded any impairment charges in any of the periods presented.

Product Warranty—The Company's products are generally sold with a limited standard warranty for a period of one to three years, warranting that the product conforms to specifications and is free from material defects in design, materials and workmanship. To date, the Company has had negligible returns of any defective production parts.

Convertible Preferred Stock Warrant Liability—The Company accounts for its outstanding convertible preferred stock warrants as derivative liabilities as the terms of the warrants are not fixed due to potential adjustments in the exercise price and the number of shares upon an equity financing at a lower price. The convertible preferred stock warrants are initially recorded at fair value when issued, with gains and losses arising from changes in fair value recognized in other income (expense) in the consolidated statements of operations and comprehensive loss at each period end while such instruments are outstanding and classified as liabilities. Upon the earlier of the exercise of the warrants or the completion of a liquidation event, including the completion of this offering, at which time, the warrants will convert into warrants to purchase shares of common stock, the liability will be reclassified to convertible preferred stock or stockholders' equity (deficit), and will no longer be subject to fair value accounting. The fair values of the convertible preferred stock warrants issued in connection with debt agreements were recorded as debt discounts and are amortized as non-cash interest expense in the consolidated statement of operations over the expected term of the debt agreements. The fair value of the convertible preferred stock warrants issued in connection with a collaboration and development agreement was recorded as an operating expense at the date of issuance (see Note 11).

Convertible Preferred Stock—The Company recorded convertible preferred stock at fair value on the dates of issuance, net of issuance costs. The convertible preferred stock is recorded outside of stockholders' equity (deficit) because the shares contain liquidation features that are not solely within the Company's control. The Company has elected not to adjust the carrying values of the convertible preferred stock to the liquidation preferences of such shares because it is uncertain whether or when an event would occur that would obligate the Company to pay the liquidation preferences to holders of shares of convertible preferred stock. Subsequent adjustments to the carrying values to the liquidation preferences will be made only when it becomes probable that such a liquidation event will occur.

Unaudited Pro Forma Balance Sheet—The June 30, 2017 unaudited pro forma balance sheet has been prepared assuming the following capital transactions will occur in connection with the Company's proposed initial public offering: (i) the automatic conversion of all outstanding shares of convertible preferred stock into 20,816,754 shares of common stock; (ii) the automatic conversion of convertible preferred stock warrants into warrants to purchase 584,148 shares of common stock; and (iii) the reclassification of the convertible preferred stock warrant liability to additional paid-in capital. The pro forma balance sheet does not include the shares expected to be sold or any related proceeds to be received from the proposed initial public offering.

Revenue Recognition—The Company sells its products direct to its customers or to its customers' manufacturing subcontractors and does not currently have a significant amount of revenue sold to distributors during the sales process. The Company offers a limited number of customers rebates and accrues an estimate of such rebates at the time revenue is recognized. Such rebates were not material in any of the periods presented, and the differences between the actual amount of such rebates and the estimates also were not material. Revenue is recognized when delivery has occurred, persuasive evidence of an arrangement exists, the price is fixed or determinable, and collection of the resulting receivable is reasonably assured. Delivery is considered to have occurred when title and risk of loss have passed to the customer. There are no circumstances where revenue is recognized prior to delivery. Customer purchase orders are generally used to determine the existence of an arrangement. The Company evaluates whether the price is fixed or determinable based on the payment terms associated with the transaction. With respect to collectability, the Company performs credit checks for new customers and performs ongoing evaluations of its existing customers' financial condition. The Company defers revenue if any of the revenue recognition criteria have not been met (see Note 8).

Cost of Revenue—Cost of revenue consists of wafers, processed by third-party foundries, costs associated with packaging, assembly, and test paid to third-party contract manufacturers, and personnel and other costs associated with the Company's manufacturing operations. Cost of revenue also includes allocation of overhead and facility costs, depreciation of production equipment, inventory write-downs and amortization of production mask costs.

Research and Development—Research and development expenses are charged to operations as incurred. These costs include personnel costs, pre-production engineering mask costs, software license and intellectual property expenses, design tools and prototype-related expenses, facility costs, supplies and depreciation expense.

The Company enters into development agreements with some of its customers that provide fees that partially offset development costs. Such fees are recognized upon completion of the contract deliverables or milestones, and acceptance by the customer, if required. Gross research and development expenses and the collaboration and development charge were $27.8 million, $42.6 million and $37.1 million, for the years ended December 31, 2014, 2015 and 2016, respectively. Gross research and development expenses and the collaboration and development charge were $17.8 million and $20.9 million, for the six months ended June 30, 2016 and 2017, respectively. The Company recorded approximately $0.5 million, $5.3 million, $0.5 million as an offset to research and development expense for the years ended December 31, 2014, 2015 and 2016, respectively. The Company recorded approximately $0.5 million and zero as an offset to research and development expense for the six months ended June 30, 2016 and 2017, respectively.

Collaboration and Development Charge—Collaboration and development charge represents the fair value of Series H convertible preferred stock warrants issued to GLOBALFOUNDRIES (see Note 11) in connection with a letter agreement to collaborate on the potential development and manufacture of products with GLOBALFOUNDRIES. While the Company is not under any contractual obligation to develop its products under this arrangement, the collaboration agreement with GLOBALFOUNDRIES has provided the Company access to GLOBALFOUNDRIES' collaborative efforts to help the Company develop its products and shorten the time to market. In fiscal 2015, the Company expensed the fair value of the warrants on issuance because they were legally issued, fully vested, and nonforfeitable on issuance. The fair value of the warrants was recognized as an expense as opposed to an asset because there were no specific performance obligations of GLOBALFOUNDRIES; rather, the Company and GLOBALFOUNDRIES only agreed to collaborate with the possibility of a future contractual arrangement between the parties regarding the manufacture and sale of products to the Company. The Company did not acquire any intangible assets or other rights that would allow or require capitalization as an asset, nor is GLOBALFOUNDRIES obligated to provide any future service to the Company beyond the general understanding pursuant to the letter agreement to collaborate on the potential development of products for manufacture by GLOBALFOUNDRIES. Accordingly, the Company accounted for the fair value of the warrants as additional research and development expense. Because it represents a significant expense, the Company presented this charge as a separate line item in its statement of operations.

Income Taxes—Deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the financial statements' carrying amounts of existing assets and liabilities and their respective tax basis and net operating loss and tax credit carryforwards. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized.

A tax position is recognized only if it is more likely than not to be sustained based solely on its technical merits as of the reporting date and then only in an amount more likely than not to be sustained upon review by the tax authorities. The Company considers many factors when evaluating and estimating its tax positions and tax benefits, which may require periodic adjustments and which may not accurately represent actual outcomes.

Stock-Based Compensation—Compensation expense related to stock-based transactions is measured and recognized in the financial statements at fair value. Stock-based compensation expense is measured at the grant date based on the fair value of the equity award and is recognized as expense, less actual forfeitures (see Note 13), over the requisite service period, which is generally the vesting period. The Company estimates the fair value of each equity award on the date of grant using the Black-Scholes option-pricing model and recognizes the related stock-based compensation expense on the straight-line method. Determining the fair value of stock-based awards at the grant date requires judgment, including estimating the common stock fair value, expected term, expected volatility, risk-free interest rate, and expected dividends.

The Company accounts for equity instruments issued to nonemployees based on the fair value of the awards determined using the Black-Scholes option pricing model. The fair value of such instruments is recognized as an expense over the vesting period.

Other Comprehensive Loss—During the years ended December 31, 2014, 2015 and 2016, the Company did not have any other components of comprehensive loss other than net loss and, therefore, the net loss and comprehensive loss were the same for all periods presented. As of June 30, 2017, the Company purchased financial instruments which were classified as available-for-sale securities for which an accumulated other comprehensive loss of $2,000 was recorded.

Net Loss per Share of Common Stock—Basic net loss per common share is calculated by dividing the net loss by the weighted-average number of common shares outstanding during the period, without consideration for potentially dilutive securities. Diluted net loss per share is computed by dividing the net loss by the weighted-average number of common shares and potentially dilutive securities outstanding for the period determined using the treasury-stock and if-converted methods. For purposes of the diluted net loss per share calculation, convertible preferred stock and stock options are considered to be potentially dilutive securities. Basic and diluted net loss attributable to common stockholders per share is presented in conformity with the two-class method required for participating securities as the convertible preferred stock is considered a participating security. The Company's participating securities do not have a contractual obligation to share in the Company's losses. As such, the net loss was attributed entirely to common stockholders. Because the Company has reported a net loss for all periods presented, diluted net loss per common share is the same as basic net loss per common share for those periods.

Unaudited Pro Forma Net Loss per Share of Common Stock—The unaudited pro forma basic and diluted net loss per share assumes the automatic conversion of all outstanding shares of convertible preferred stock into common stock, as if the conversion had occurred at the beginning of the period or the date of issuance, if later. The pro forma net loss per share also includes an adjustment for the change in the fair value of convertible preferred stock warrants under the assumption that the warrants automatically convert to warrants to purchase common stock. The pro forma net loss per share does not include the shares expected to be sold or any related proceeds to be received from the proposed initial public offering.

Reverse Stock Split—In September 2017, the Company's board of directors and stockholders approved a 1-for-10 reverse split of the Company's common stock (the "Reverse Stock Split"), which was effected on October 5, 2017. The board of directors and stockholders also approved proportionate adjustments to the conversion prices of each series of convertible preferred stock and convertible preferred stock warrants. The number of options to purchase common stock was also proportionately adjusted to reflect the Reverse Stock Split. The par value of the common and convertible preferred stock was not adjusted as a result of the Reverse Stock Split. All share and per share information included in the accompanying consolidated financial statements and notes thereto have been adjusted to reflect the Reverse Stock Split.

Recent Accounting Pronouncements—In May 2017, the Financial Accounting Standards Board ("FASB") issued ASU 2017-09, *Compensation-Stock Compensation (Topic 718): Scope of Modification Accounting.* It provides clarity and reduces both (i) diversity in practice and (ii) cost and complexity when applying the guidance in *Topic 718, Compensation-Stock Compensation*, to a change to the terms or conditions of a share-based payment award. The amendments provide guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting. The guidance is effective for fiscal years beginning after December 15, 2017, and interim periods within those years and early adoption is permitted. The Company is currently evaluating the impact of adoption of this new standard on the Company's consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*. The new guidance requires entities to recognize assets and liabilities for leases with terms of more than 12 months and additional disclosures to better understand the amount, timing and uncertainty of cash flows arising from leases. The guidance is effective for financial statements issued for fiscal years beginning after December 15, 2018. Early adoption is permitted. Management is evaluating the impact of this new standard on the Company's consolidated financial statements.

In August 2015, the FASB issued ASU 2016-08, "Revenue from Contracts with Customers (Topic 606): *Principal versus Agent Considerations (Reporting Revenue Gross versus Net)"*, an update that deferred the effective date of the new guidance they previously issued in May 2014 related to the recognition and reporting of revenue that establishes a comprehensive new revenue recognition model designed to depict the transfer of goods or services to a customer in an amount that reflects the consideration the entity expects to receive in exchange for those goods or services. The guidance allows for the use of either the full or modified retrospective transition method. This new standard will be effective for us on January 1, 2018, although adoption as of the original effective date of January 1, 2017 is permitted. Management intends to use the modified retrospective method and is evaluating the impact of this new standard on the Company's consolidated financial statements and disclosure.

Adopted

In March 2016, the FASB issued Accounting Standards Update ("ASU") 2016-09, *Improvements to Employee Share-Based Payment Accounting*. This guidance affects entities that issue share-based payment awards to their employees. The guidance is designed to simplify several aspects of accounting for share-based payment award transactions which include: the income tax consequences, classification of awards as either equity or liabilities, classification on the statement of cash flows, and forfeiture rate calculations. The adoption of this guidance did not result in a significant impact to the Company's consolidated financial statements.

In July 2015, the FASB issued ASU 2015-11, *Simplifying the Measurement of Inventory*, which requires entities to measure most inventory "at the lower of cost and net realizable value", thereby simplifying the current guidance under which an entity must measure inventory at the lower of cost or market (market in this context is defined as one of three different measures, one of which is net realizable value). This standard will be effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017. The adoption of this new guidance did not result in a significant impact to the Company's consolidated financial statements and the related disclosures.

In August 2016, the Financial Accounting Standards Board, ("FASB"), issued ASU 2016-15, *Classification of Certain Cash Receipts and Cash Payments (Topic 230)*, which provides guidance for eight specific cash flow issues with the objective of reducing the existing diversity in practice. ASU 2016-15 is effective retrospectively for annual reporting periods beginning after December 15, 2017, including interim periods within those annual reporting periods. Early adoption is permitted. The Company early adopted this guidance effective in 2016. The early adoption of this guidance did not result in any adjustments.

Subsequent Events—The Company has evaluated subsequent events for its audited annual consolidated financial statements through the original issuance date of February 28, 2017 except for May 16, 2017 as to Note 18.

For the six months ended June 30, 2017, subsequent events were evaluated through August 15, 2017, the date such interim consolidated financial statements were available to be issued.

3. Concentrations

Credit—Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of cash and cash equivalents and accounts receivable. The Company's cash equivalents consist of checking and money market accounts with a financial institution that management believes to be of high-credit quality; however, at times, balances exceed federally insured limits. Amounts held on deposit at financial institutions in excess of Federal Deposit Insurance Corporation-insured amounts were $34.1 million, $28.0 million and $1.7 million at December 31, 2015 and 2016 and June 30, 2017, respectively.

Significant Customers—Credit risk with respect to accounts receivable is concentrated with four large customers that contribute a majority of the Company's business and is mitigated by a relatively short collection period. Collateral is not required for accounts receivable. The fair value of accounts receivable approximates their carrying value. Revenue and accounts receivables concentrated with significant customers and their manufacturing subcontractors, as a percentage of total revenue and accounts receivable was as follows:

	Year Ended December 31,		Six Months Ended June 30,	
	2015	2016	2016	2017
			(unaudited)	
Accounts Receivable:				
Customer A	55%	62%	49%	52%
Customer B	26	23	36	38
Customer C	10	*	*	*

* Less than 10%

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
				(unaudited)	
Revenue:					
Customer A	68	78	68	66	65
Customer B	*	13	21	24	27
Customer C	10	*	*	*	*

* Less than 10%

Significant Suppliers–The Company depends on a limited number of subcontractors to fabricate, assemble, and test its semiconductor devices. The Company generally sources its production through standard purchase orders and has wafer supply and assembly and test agreements with certain outside contractors. While the Company seeks to maintain a sufficient level of supply and endeavors to maintain ongoing communications with suppliers to guard against interruptions or cessation of supply, business and results of operations could be adversely affected by a stoppage or delay of supply, substitution of more expensive or less reliable products or services, receipt of defective semiconductor devices, an increase in the price of products, or an inability to obtain reduced pricing from suppliers in response to competitive pressures.

4. Segment Reporting

The Company operates in one reportable segment related to the design, development and sale of network communication integrated circuits. The Company's chief operating decision-maker ("CODM") is its Chief Executive Officer, who reviews operating results on an aggregate basis and manages the Company's operations as a whole for the purpose of evaluating financial performance and allocating resources. Substantially all of the Company's long-lived assets were attributable to operations in the United States as of December 31, 2015 and 2016 and June 30, 2017.

The following table summarizes revenue by market (in thousands):

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
				(unaudited)	
Revenue by market:					
Data Center	$23,931	$72,549	$64,024	$29,259	$32,760
Enterprise Infrastructure	569	8,258	22,476	12,115	15,375
Access	–	–	175	–	580
Automotive	–	–	–	–	92
Total revenue	$24,500	$80,807	$86,675	$41,374	$48,807

The Company sells its products worldwide and attributes revenue to the geography where the product is shipped. The geographical distribution of revenue as a percentage of total revenue for the periods indicated was as follows:

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
				(unaudited)	
Malaysia	54%	74%	69%	62%	65%
China	20	18	26	25	28
United States	18	5	1	4	1
Other	8	3	4	9	6
Total	100%	100%	100%	100%	100%

5. Financial Instruments

The following is a summary of financial instruments (in thousands):

	As of June 30, 2017			
	Cost	Gross UnrealizedGains	Gross UnrealizedLosses	Estimated Fair Values
	(unaudited)			
Available-for sale securities				
Commercial Paper	$998	$—	$—	$998
Money market funds	9,619	—	—	9,619
Corporate bonds	3,826	—	(2)	3,824
U.S. government securities	1,892	—	—	1,892
Total available-for-sale securities (unaudited)	$16,335	$—	$(2)	$16,333
Reported in:				
Cash and cash equivalents				$15,435
Short-term investments				900
Accumulated other comprehensive loss				(2)
Total available-for-sale securities (unaudited)				$16,333

At December 31, 2015 and 2016, the Company had $34.3 million and $28.9 million, respectively, in cash and cash equivalents. At June 30, 2017, the Company had $18.3 million in cash, cash equivalents and investments. The majority of these amounts were held in available-for-sale securities as shown above. Prior to June 2017, the Company's financial instruments comprised solely of money market funds which were classified as cash equivalents. There were no sale of the available-for-sale security and therefore, there was no realized gain or loss for the six months ended June 30, 2016 and 2017, respectively.

6. Fair Value Measurements

The Company defines fair value as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities which are required to be recorded at fair value, the Company considers the principal or most advantageous market in which to transact and the market-based risk. The Company applies fair value accounting for all financial assets and liabilities that are recognized or disclosed at fair value in the financial statements on a recurring basis. Level 1 liabilities consist of accounts payable, accrued expense and long-term debt. The carrying amounts of accounts receivable, prepaid expenses, accounts payable and accrued liabilities approximate fair value due to the short-term nature of these items. Based on the borrowing rates currently available to the Company for debt with similar terms, the carrying value of the term debt approximates fair value as well. The Company categorizes assets and liabilities recorded at fair value based upon the level of judgment associated with inputs used to measure their fair value. The categories are as follows:

Level 1—Observable inputs, such as quoted prices in active markets for identical, unrestricted assets, or liabilities.

Level 2—Quoted prices for similar assets or liabilities, or inputs other than quoted prices in active markets that are observable either directly or indirectly.

Level 3—Unobservable inputs in which there is little or no market data, which require the Company to develop its own assumptions about the assumptions market participants would use in pricing the asset or liability. Valuation techniques include use of option-pricing models, discounted cash flows models, and similar techniques.

The hierarchy requires the Company to use observable market data, when available, and to minimize the use of unobservable inputs when determining fair value. The following tables represent the Company's financial assets and financial liabilities measured at fair value on a recurring basis categorized by the fair value hierarchy as of December 31, 2015, 2016 and June 30, 2017 (in thousands):

	As of December 31, 2015			
	Level 1	Level 2	Level 3	Total
Financial asset—money market funds	$298	$—	$—	$298
Financial liability—convertible preferred stock warrant liability	$—	$—	$12,346	$12,346
	As of December 31, 2016			
	Level 1	Level 2	Level 3	Total

Financial asset—money market funds	$15,316	$—	$—	$15,316
Financial liability—convertible preferred stock warrant liability	$—	$—	$12,885	$12,885

	As of June 30, 2017			
	Level 1	Level 2	Level 3	Total
	(unaudited)			
Financial asset—available-for-sales securities				
Money market funds	$9,619	$—	$—	$9,619
Commercial Paper	—	998	—	998
Corporate bonds	—	3,824	—	3,824
U.S. government securities	—	1,892	—	1,892
Total financial asset—available-for-sales securities	$9,619	$6,714	$—	$16,333
Financial liability—convertible preferred stock warrant liability	$—	$—	$3,847	$3,847

The summary of changes in the fair value of the Company's Level 3 financial liabilities was as follows (in thousands):

Balance at January 1, 2014	$1,806
Increase in fair value of convertible preferred stock warrant liability	15
Expiration of Series F convertible preferred stock conversion right	(131)
Issuance of Series G convertible preferred stock warrants	173
Balance at December 31, 2014	1,863
Decrease in fair value of convertible preferred stock warrant liability	(1,591)
Issuance of Series G convertible preferred stock warrants	50
Issuance of Series H convertible preferred stock warrants	12,024
Balance at December 31, 2015	12,346
Decrease in fair value of convertible preferred stock warrant liability	544
Exercise of Series A convertible preferred stock warrants	(5)
Balance at December 31, 2016	12,885
Change in fair value of convertible preferred stock warrant liability (unaudited)	1,700
Exercise of Series H convertible preferred stock warrants (unaudited)	(10,738)
Balance at June 30, 2017 (unaudited)	$3,847

See Note 11 for discussion of valuation methods and inputs for such financial liabilities.

The Company has not changed the manner in which it values liabilities that are measured at estimated fair value using Level 3 inputs. There were no transfers within the hierarchy during the years ended December 31, 2014, 2015 and 2016 and the six months ended June 30, 2017.

7. Balance Sheet Components

Inventories consisted of the following (in thousands):

	As of December 31,		As of June 30,
	2015	2016	2017
			(unaudited)
Processed wafers	$1,226	$1,474	$2,115
Work in process	12,126	3,310	4,572
Finished goods	3,235	2,233	2,559
Total inventories	$16,587	$7,017	$9,246

Prepaid expenses and other current assets consisted of the following (in thousands):

	As of December 31,		As of June 30,
	2015	2016	2017
			(unaudited)
Processed wafer prepayments	$2,317	$653	$2,656
Electronic design automation tools	257	330	526
Other prepaid and other current assets	947	626	921
Total other prepaid and other current assets	$3,521	$1,609	$4,103

Property and equipment, net consisted of the following (in thousands):

		As of December 31,		As of June 30,
	Estimated Useful Lives	2015	2016	2017
				(unaudited)
Machinery and equipment	2-3 years	$7,616	$10,189	$11,248
Production masks	4 years	1,961	4,301	4,301
Software and computer equipment	3 years	1,513	2,724	3,278
Leasehold improvements	Shorter of estimated life of asset or remaining lease term	566	271	349
Office furniture and fixtures	3 years	96	99	100
Total property and equipment		11,752	17,584	19,276
Less: accumulated depreciation and amortization		(7,485)	(9,462)	(11,139)
Property and equipment, net		$4,267	$8,122	$8,137

Depreciation and amortization of property and equipment totaled $1.7 million, $1.8 million and $2.7 million for the years ended December 31, 2014, 2015 and 2016, respectively. Depreciation and amortization of property and equipment totaled $1.2 million and $1.8 million for the six months ended June 30, 2016 and 2017, respectively.

Intangible assets, net is carried at cost, less accumulated amortization. Intangible assets were as follows (in thousands):

		As of December 31,		As of June 30,
	Estimated Useful Lives	2015	2016	2017
				(unaudited)
IP license	7 years	$—	$5,416	$5,416
Patents	10-12 years	348	348	348
Total intangible assets		348	5,764	5,764
Less: accumulated amortization		(109)	(401)	(805)
Intangible assets, net		$239	$5,363	$4,959

Amortization of intangible assets totaled $203,000, $33,000 and $291,000 for the years ended December 31, 2014, 2015 and 2016, respectively, and included in research and development expense. Amortization of intangible assets totaled $16,000 and $404,000 for the six months ended June 30, 2016 and 2017, respectively.

Amortization expense related to amortizable intangibles in future periods as of December 31, 2016 is expected to be as follows (in thousands):

2017	$808
2018	808
2019	808
2020	808
2021 and thereafter	2,131
Total	$5,363

Accrued liabilities consisted of the following (in thousands):

	As of December 31,		As of June 30,
	2015	2016	2017
			(unaudited)
Accrued compensation and related benefits	$3,301	$3,585	$3,359
Accrued IP license fees	293	389	223
Accrued technical consulting and professional services	1,500	617	947
Accrued royalty, rebates, and commission	268	610	317
Other accrued liabilities	764	1,550	1,751
Total accrued liabilities	$6,126	$6,751	$6,597

8. Deferred Revenue

Deferred revenue primarily relates to a series of agreements entered into in January 2009 with Intel Corporation (collectively, the "Intel Agreement") for the development and sale of 10-gigabit Ethernet physical layer devices. The Intel Agreement outlines the terms and conditions under which the Company is to develop an agreed-upon product incorporating Intel's proprietary technology (the "Intel Product"), provide product prototype to Intel, and the terms of future pricing on the developed product. Significant terms of the Intel Agreement included:

- Intel paid the Company $3.5 million for the purchase of 1,627,699 shares of Series C convertible preferred stock;
- The Company issued a warrant to Intel to purchase up to 4,006,088 shares of Series C-1 convertible preferred stock. This warrant was issued in connection with the master purchase agreement and vests upon the achievement of certain milestones related to the Company's development of the product for Intel and Intel's purchasing certain specified levels of the Company's products;
- Intel made a $4.0 million refundable prepayment toward future product purchases, which was refunded in 2010;
- Intel paid the Company $4.0 million for certain product development costs (non-recurring engineering services);
- The Company provided to Intel, at no cost, up to 200 prototype chips of the Intel Product with additional prototypes purchased at the Company's cost; and
- The Company agreed to sell future production units of the Intel Product at selling prices that result in a reduced gross margin for the Company and a lower per unit cost for Intel.

In fiscal 2009, the Company evaluated the Intel Agreement as a multiple-element arrangement and concluded that there were five deliverables: (1) Series C-1 convertible preferred stock, (2) Series C-1 convertible preferred stock warrant, (3) non-recurring engineering services, (4) prototypes, and (5) pricing discounts. The Company concluded that the Series C-1 convertible preferred stock and preferred stock warrant were one unit of accounting. Preferred stock and the issued warrant were recorded at the issuance date at their estimated fair value of $1.3 million. Warrant fair value was estimated at zero at the issuance date, which was its then-current lowest aggregate fair value in accordance with accounting guidance for equity awards granted to non-employees for services when quantity and terms of an award depend on performance conditions. As performance conditions were satisfied and the warrant vested, it was recorded as a derivative liability and a reduction to deferred revenue related to Intel Agreement in accordance with accounting guidance for consideration given by a vendor to a customer.

The Company concluded that the remainder of the deliverable components, including non-recurring engineering services, prototypes, and pricing discounts, comprised a second unit of accounting ("Product Element"), as none of the remaining deliverable components were determined to have stand-alone value. As the pricing discounts was the final deliverable under the arrangement, the estimated fair value of the Product Element and subsequent sales of prototype products during the development period were deferred until the developed product with favorable pricing was available for sale in the second quarter of 2012. The deferred revenue balance in June 2012 of $12.5 million was being amortized as revenue on a straight-line basis over the estimated 48-month life of the product, which is the estimated period over which the pricing discounts will be in effect.

Deferred revenue related to the Intel Agreement as of December 31, 2015 and 2016, was $1.6 million and zero, respectively. Revenue of $3.1 million was recognized in each of the fiscal years ended December 31, 2014 and 2015. Revenue of $1.6 million was recognized for the year ended December 31, 2016. Deferred revenue related to the Intel Agreement was fully amortized by the end of the second quarter of

2016.

9. Commitments and Contingencies

Lease and purchase obligations

The Company leases office and research facilities under operating leases for its U.S. headquarters and international locations that expires at various dates through February 2020. Under the lease agreements that contain escalating rent provisions, lease expense is recorded on a straight-line basis over the lease term. Rent expense for the years ended December 31, 2014, 2015 and 2016 was $0.4 million, $0.7 million and $0.9 million, respectively. Rent expense for the six months ended June 30, 2016 and 2017 was $0.5 million and $0.5 million, respectively. In addition, the Company has purchase obligations which included agreements and issued purchase orders containing non-cancelable payment terms to purchase goods and services.

As of December 31, 2016, future minimum operating lease payments and purchase obligations are as follows (in thousands):

	Operating Leases	Purchase Obligations	Total Lease and PurchaseObligations
2017	$982	$9,433	$10,415
2018	509	1,668	2,177
2019	114	330	444
2020	19	—	19
Total minimum payments	$1,624	$11,431	$13,055

Litigation—The Company accrues for contingencies when it believes that a loss is probable and that it can reasonably estimate the amount of any such loss and the Company has made an assessment of the probability of incurring any such losses and whether or not those losses are estimable.

Although the Company is not currently subject to any litigation, and no litigation is currently threatened against the Company, the Company may be subject to legal proceedings, claims and litigation, including intellectual property litigation, arising in the ordinary course of business. Such matters are subject to many uncertainties and outcomes and are not predictable with assurance. The Company accrues amounts that it believes are adequate to address any liabilities related to legal proceedings and other loss contingencies that it believes will result in a probable loss that is reasonably estimable.

To the extent there is a reasonable possibility that a loss exceeding amounts already recognized may be incurred and the amount of such additional loss would be material, the company will either disclose the estimated additional loss or state that such an estimate cannot be made. The Company does not currently believe that it is reasonably possible that losses in connection with litigation arising in the ordinary course of business would be material.

Indemnification—Under the indemnification provisions of the Company's standard sales related contracts, the Company agrees to defend its customers against third-party claims asserting infringement of certain intellectual property rights, which may include patents, copyrights, trademarks, or trade secrets and to pay judgments entered on such claims. Certain agreements include indemnification provisions that could potentially expose the Company to losses in excess of the amount received under the agreement. In addition, the Company indemnifies its directors and certain of its officers while they are serving in good faith in such capacities. To date, the Company has not incurred costs to defend lawsuits or settle claims related to these indemnification agreements. As of December 31, 2015 and 2016 and June 30, 2017, no liability associated with such indemnifications had been recorded.

10. Debt

In connection with each of the Loan and Security Agreements with Pinnacle Ventures and the Loan and Security Agreement with Hercules Technology Growth Capital described below, the Company has granted in favor of the lenders thereunder a security interest in substantially all of the Company's assets other than the Company's intellectual property. The loan with Pinnacle Ventures is subordinated to the loan with Hercules Technology Growth Capital pursuant to a subordination agreement.

Loan and Security Agreement with Pinnacle Ventures—On April 5, 2013, the Company entered into a Loan and Security Agreement with Pinnacle Ventures (the "2013 Agreement") to borrow an aggregate principal amount of $15 million. The interest rate on this loan was the greater of the prime rate plus 925 basis points, or 12.5% per annum. At December 31, 2014, the interest rate was 12.5%. The Company was required to make interest-only payments for the first 24 months starting in April 2013 and thereafter make 18 equal installment payments through October 5, 2016, the maturity date of the loan.

In connection with the 2013 Agreement, the Company issued 646,551 fully vested Series F convertible preferred stock warrants at an exercise price of $0.9280000. The agreement also provided a conversion right (the "Conversion Right"), which expired unexercised on June 30, 2014 and was reclassified to convertible preferred stock. The Conversion Right was accounted for as a financial derivative and the estimated fair value was determined using the Monte Carlo Simulation with an initial aggregate fair value of $180,843. The estimated fair value was determined using the following assumptions: risk-free interest rate of 0.21%, contractual term of 0.46 years to 0.96 years, and volatility of 45%.

On December 16, 2014, the Company amended the 2013 Agreement with Pinnacle Ventures (the "2013 Amended Agreement") to borrow an additional $8.8 million and modify the terms of the existing loan of $15 million. The interest rate on this loan, effective January 1, 2015 is the greater of the prime rate plus 550 basis points, or 8.75% per annum. As of December 31, 2016, the interest rate on this loan was 9.25%. As of June 30, 2017, the interest rate on this loan was 9.50%. Under the terms of the 2013 Amended Agreement, principal payments for the combined loan started in May 2016. An additional payment of $1.5 million is due upon the earliest to occur of the maturity date of July 1, 2018 or the prepayment of all outstanding principal and accrued and unpaid interest. The final payment is being amortized to interest expense over the original term of the loan. In connection with this 2013 Amended Agreement, the Company also issued 640,129 fully vested Series G convertible preferred stock warrants with an exercise price of $1.4314298 per share (see Note 11).

The 2013 Amended Agreement contains customary financial reporting and insurance requirements, and negative covenants that limit the Company's ability to, among other things, prepay or incur additional indebtedness, grant liens, make investments, repurchase stock, pay dividends, transfer assets, and merge or consolidate. As of December 31, 2016 and June 30, 2017, the Company was in compliance with all covenants.

Loan and Security Agreement with Hercules Technology Growth Capital—On January 30, 2015, the Company entered into a Loan and Security Agreement with Hercules Technology Growth Capital for an $11.5 million revolving line of credit. In connection with this agreement, the Company issued fully vested warrants to purchase 196,831 shares of convertible preferred stock at an exercise price of $1.4314298 per share (see Note 11). At the election of the holder, these warrants may be exercised for Series G or Series H convertible preferred stock.

The line of credit is based upon a percentage of eligible receivables and eligible customer purchase orders. The line of credit bears a variable rate of interest and is based upon the Federal Reserve's prime rate and changes in the Company's borrowing base eligibility and whether the borrowing base is based on eligible accounts receivables or eligible purchase orders or both. The line of credit matures on February 1, 2018. An additional final payment of $0.3 million is due upon the earliest to occur of the maturity date, the date of prepayment of the outstanding secured obligations, or the date that the secured obligations become due and payable. The final payment was recorded as a long-term liability and other asset on the Company's consolidated balance sheet and the asset is amortized to interest expense over 24 months, the initial term of the agreement. As of December 31, 2015, the amount available for borrowing under the line of credit was $6.5 million with an average interest rate of 7.35%. The outstanding balance of $5.0 million at December 31, 2015 was paid in full on January 5, 2016. As of June 30, 2017, the amount outstanding under the line of credit was $5.0 million with an average interest rate of 7.20% and the amount available for borrowing was $6.5 million.

The agreement contains customary financial reporting requirements and negative covenants that limit the Company's ability to, among other things, incur additional indebtedness, grant liens, make investments, repurchase stock, pay dividends, lend money or forgive indebtedness to employees, officers or directors, transfer assets, and merge or consolidate. As of June 30, 2017, the Company was in compliance with all covenants.

Loan and Security Agreement with Silicon Valley Bank—On December 17, 2012, the Company entered into a Loan and Security Agreement with Silicon Valley Bank for an $11.5 million line of credit. The line of credit was terminated on January 31, 2015.

Debt obligations consisted of the following (in thousands):

	As of December 31,		As of June 30,
	2015	2016	2017
			(unaudited)
Term loans	$23,800	$17,241	12,070
Final payment liability	641	1,192	1,376
Total term loans	24,441	18,433	13,446
Unamortized debt discount	(533)	(204)	(95)
Less: unamortized debt discount in other current assets	—	—	—
Balance term loans	23,908	18,229	13,351

Bank borrowings—line of credit	5,001	—	5,000
Total debt	28,909	18,229	18,351
Less: long-term debt, current portion and bank borrowings—line of credit	(12,455)	(11,238)	(17,377)
Long-term debt	$16,454	$6,991	974

The future principal payments for term loans were as follows (in thousands):

	As of December 31, 2016
2017	$10,595
2018	6,646
Total	$17,241

11. Convertible Preferred Stock Warrants

The following convertible preferred stock warrants were outstanding (in thousands except share and per share amounts):

		As of December 31,				As of June 30, 2017	
		2015		2016			
Series	Exercise Price Per Share	Preferred Shares Underlying Warrants	Fair Value	Preferred Shares Underlying Warrants	Fair Value	Preferred Shares Underlying Warrants	Fair Value
						(unaudited)	
A	$0.8209000	334,998	$6	—	$—	—	$—
B	2.1502753	31,973	1	31,973	—	31,973	2
C-1[(1)]	0.0100000	2,472,088	1,497	2,472,088	1,760	2,472,088	2,922
D	0.6663973	825,332	242	825,332	272	825,332	541
F	0.9280000	646,551	142	646,551	154	646,551	268
G	1.4314298	640,129	100	640,129	93	640,129	87
G/H	1.4314298	196,831	31	196,831	29	196,831	27
H	0.0100000	9,756,160	10,327	9,756,160	10,577	—	—
Total Warrants		14,904,062	$12,346	14,569,064	$12,885	4,812,904	$3,847

(1) 3,006,008 shares of Series C-1 convertible preferred stock underlie the Series C-1 warrant, of which 2,472,088 shares have vested.

Series A Convertible Preferred Stock Warrants Issued to Pinnacle Ventures—As consideration for a 2006 Loan and Security Agreement, the Company issued fully vested warrants to Pinnacle Ventures to purchase 334,998 shares of Series A convertible preferred stock at an exercise price of $0.8209000 per share which were fully exercised as of December 31, 2016.

Series B Convertible Preferred Stock Warrants Issued to Pinnacle Ventures—As consideration for a 2008 Amended and Restated Loan and Security Agreement with Pinnacle Ventures, the Company issued fully vested warrants to purchase 157,538 shares of Series B convertible preferred stock at an exercise price of $2.1502753 per share. These Series B warrants have a term of 10 years. In connection with the issuance of the Series D convertible preferred stock in November 2009, warrants to purchase 125,565 shares of Series B convertible preferred stock automatically converted into warrants to purchase 405,164 shares of Series D convertible preferred stock at $0.6663973 per share. See "–Series D Convertible Preferred Stock Warrants Issued to Pinnacle Ventures" below.

Series C-1 Convertible Preferred Stock Warrants Issued to Intel Corporation—In connection with entering into the Intel Agreement (See Note 8), the Company issued warrants to purchase up to 4,006,088 shares of Series C-1 convertible preferred stock at an exercise price of $0.01 per share. The warrants are valued as they vest and become exercisable upon the achievement of certain milestones, primarily related to product development. As of December 31, 2015, warrants to purchase 534,000 shares of Series C-1 convertible preferred stock are subject to potential vesting under the Intel Agreement. The fair value at vesting will be allocated to the Intel

Agreement. During the year ended December 31, 2009, warrants to purchase 3,472,088 shares vested with an initial value of $1,927,505. Prior to 2014, 1,000,000 of the shares underlying the vested warrants were issued upon exercise of such warrants. The remaining warrants will expire in January 2019.

Series D Convertible Preferred Stock Warrants Issued to Pinnacle Ventures—As consideration for a 2009 Amendment to the 2008 Amended and Restated Loan and Security Agreement with Pinnacle Ventures, the Company issued to Pinnacle Ventures fully vested warrants to purchase 210,084 shares of Series D convertible preferred stock. The Company also issued fully vested warrants to purchase an additional 210,084 shares of Series D convertible preferred stock when the Company borrowed an additional $3.5 million in December 2010. In addition, in connection with the issuance of the Series D convertible preferred stock in November 2009, warrants to purchase 125,565 shares of Series B convertible preferred stock automatically converted into fully vested warrants to purchase 405,164 shares of Series D convertible preferred stock. The Series D warrants have an exercise price of $0.6663973 per share and a term of ten years.

Series F Convertible Preferred Stock Warrants Issued to Pinnacle Ventures—On April 5, 2013, in connection with the 2013 Agreement, the Company issued to Pinnacle Ventures fully vested warrants to purchase 646,551 Series F convertible preferred stock at an exercise price of $0.9280000 price per share. These warrants will expire in April 2023.

Series G Convertible Preferred Stock Warrants Issued to Pinnacle Ventures—On December 16, 2014, in connection with the 2013 Amended Agreement, the Company issued to Pinnacle Ventures fully vested warrants to purchase 640,129 shares of Series G convertible preferred stock at an exercise price of $1.4314298 per share. At issuance, the estimated fair value was determined using the Monte Carlo Simulation with an aggregate fair value of $173,091 that was determined using the following assumptions: risk-free rate of 2.13%, contractual term of 9.71 years, and volatility of 50%. The warrants will expire in December 2024.

Series G or Series H Convertible Preferred Stock Warrants Issued to Hercules Technology Growth Capital—On January 30, 2015, the Company entered into a Loan and Security Agreement with Hercules Technology Growth Capital for an $11.5 million, revolving line of credit. In connection with this agreement, the Company issued fully vested warrants to purchase 196,831 shares at an exercise price of $1.4314298 per share. At the election of the holder, these warrants may be exercised for Series G or Series H convertible preferred stock. At issuance, the estimated fair value was determined using the Monte Carlo Simulation with an aggregate fair value of $50,000 that was determined using the following assumptions: risk-free rate of 2.06%, contractual term of 9.83 years, and volatility of 50%. The warrants will expire in January 2025.

Series H Convertible Preferred Stock Warrants Issued to GLOBALFOUNDRIES—In connection with the collaboration and development agreement with GLOBALFOUNDRIES on March 25, 2015, the Company issued to GLOBALFOUNDRIES fully vested warrants to purchase 9,756,160 shares of Series H convertible preferred stock at an exercise price of $0.01 per share. At issuance, the estimated fair value was determined using the Monte Carlo Simulation with an aggregate estimated fair value of $12.0 million that was determined using the following assumptions: risk-free interest rate of 1.03%, expected term of one year, no expected dividends, and volatility of 35%. The fair value of these warrants was recorded as an operating expense in the consolidated statement of operations at the date of issuance. These warrants would have expired at the earlier of March 2025, the Company's initial public offering, or a deemed liquidation event. These warrants were exercised in May 2017 and were no longer outstanding at June 30, 2017.

Determining Fair Value of Convertible Preferred Stock Warrants

The assumptions used to determine the fair value of convertible preferred stock warrants were as follows:

	Year Ended December 31,			Six Months Ended
	2014	2015	2016	June 30, 2017
				(unaudited)
Valuation method	Monte Carlo Simulation	Monte Carlo Simulation	Black-Scholes Pricing Model	Black-Scholes Pricing Model
Risk-free interest rate	0.43% - 2.22%	0.10% - 2.21%	0.39% - 2.25%	0.89% - 2.24%
Expected term	1.0 - 9.7 yrs	0.2 - 9.0 yrs	0.3 - 9.0 yrs	0.8 - 7.9 yrs
Expected dividends	0%	0%	0%	0%
Volatility	35% - 50%	35% - 50%	25% - 50%	25% - 35%
Fair value of preferred stock:				
Convertible preferred Series A	$0.48	$0.37	$$0.44	$0.78
Convertible preferred Series B	0.77	0.62	0.73	1.11
Convertible preferred Series C-1	0.77	0.62	0.73	1.11

Convertible preferred Series D	0.83	0.67	0.78	1.19
Convertible preferred Series E	0.81	0.69	0.77	1.03
Convertible preferred Series F	0.95	0.84	0.91	1.11
Convertible preferred Series G	1.43	1.36	1.40	1.49
Convertible preferred Series H	—	1.42	1.43	1.50

12. Convertible Preferred Stock

The Company's certificate of incorporation, as amended, authorizes the Company to issue convertible preferred stock as follows (in thousands, except share amounts):

	As of December 31, 2015			
	Authorized Shares	Issued and Outstanding	Aggregate Liquidation Preference	Carrying Value
Convertible preferred Series A	18,664,515	18,329,516	$11,170	$14,935
Convertible preferred Series B	12,081,401	12,049,428	19,234	25,834
Convertible preferred Series C-1	4,006,088	1,000,000	1,597	922
Convertible preferred Series D	57,997,639	57,172,304	38,099	37,950
Convertible preferred Series E	26,438,715	26,438,711	22,696	22,608
Convertible preferred Series F	43,749,995	43,103,440	40,000	40,017
Convertible preferred Series G	14,809,003	13,972,043	20,000	19,917
Convertible preferred Series H	35,604,441	25,848,278	37,000	36,970
Total as of December 31, 2015	213,351,797	197,913,720	$189,796	$199,153

	As of December 31, 2016			
	Authorized Shares	Issued and Outstanding	Aggregate LiquidationPreference	Carrying Value
Convertible preferred Series A	18,664,515	18,664,514	$11,302	$15,216
Convertible preferred Series B	12,081,401	12,049,428	19,112	25,834
Convertible preferred Series C-1	4,006,088	1,000,000	1,586	922
Convertible preferred Series D	57,997,639	57,172,304	38,100	37,950
Convertible preferred Series E	26,438,715	26,438,711	22,696	22,608
Convertible preferred Series F	43,749,995	43,103,440	40,000	40,017
Convertible preferred Series G	14,809,003	13,972,043	20,000	19,917
Convertible preferred Series H	35,604,441	25,848,278	37,000	36,970
Total as of December 31, 2016	213,351,797	198,248,718	$189,796	$199,434

	As of June 30, 2017 (unaudited)			
	Authorized Shares	Issued and Outstanding	Aggregate LiquidationPreference	Carrying Value
Convertible preferred Series A	18,664,515	18,664,514	$11,302	$15,216
Convertible preferred Series B	12,081,401	12,049,428	19,112	25,834
Convertible preferred Series C-1	4,006,088	1,000,000	1,586	922
Convertible preferred Series D	57,997,639	57,172,304	38,100	37,950
Convertible preferred Series E	26,438,715	26,438,711	22,696	22,608
Convertible preferred Series F	43,749,995	43,103,440	40,000	40,017
Convertible preferred Series G	14,809,003	13,972,043	20,000	19,917

Convertible preferred Series H	35,604,441	35,604,438	50,965	47,805
Total as of June 30, 2017 (unaudited)	213,351,797	208,004,878	$203,761	$210,269

The holders of the convertible preferred stock have various rights and privileges, as follows:

Dividends—Holders of each series of convertible preferred stock shall be entitled to receive noncumulative dividends on a pari passu basis when, as, and if declared by the Company's board of directors at the annual dividend rate of 8% of the respective original issue price per share for such series of preferred stock. Such dividends, if any, shall be payable in preference to any dividends on common stock. Through June 30, 2017, no dividends have been declared or paid. The holders of convertible preferred stock are entitled to participate in any dividends payable to the holders of common stock (other than a dividend on the common stock payable solely in shares of common stock) on a pari passu, as converted to common stock basis.

Liquidation Preferences—In the event the Company liquidates, dissolves, or winds up its business, either voluntarily or involuntarily; the funds and assets that may be legally distributed to the Company's stockholders shall be distributed in the following manner:

- First, holders of Series H convertible preferred stock shall be entitled to receive, prior and in preference to any payment or distribution to any of the Company's other stockholders, an amount per share equal to $1.4314298 plus any declared but unpaid dividends on such Series H convertible preferred stock. If such available funds and assets shall be insufficient to permit the payment to holders of Series H convertible preferred stock of their full liquidation preference, then the entire amount of available funds and assets shall be distributed ratably according to the number of outstanding shares of Series H convertible preferred stock held by each holder thereof.

- Then, following the payment of the liquidation preference described in the immediately preceding bullet, all current employee stockholders eligible under the Company's Change of Control Incentive Plan effective March 25, 2015 shall be entitled to receive, prior and in preference to any distribution of any payment or distribution to any of the Company's other stockholders (except as described in the immediately preceding bullet), an aggregate payment amount equal to 12% of the remaining available funds and assets. If the remaining available funds and assets shall be insufficient to permit the full aggregate payment amount pursuant to the Change of Control Incentive Plan, then the aggregate payment amount shall be reduced to equal the entire amount of remaining available funds and assets (including a reduction to zero in the event the entire amount of available funds and assets are paid in satisfaction of the liquidation preference described in the immediately preceding bullet).

- Then, following the payment of the liquidation preferences described in the immediately preceding bullets, holders of Series G convertible preferred stock shall be entitled to receive, prior and in preference to any payment or distribution to any of the Company's other stockholders (except as described in immediately preceding bullets), an amount per share equal to $1.4314298 plus any declared but unpaid dividends on such Series G convertible preferred stock. If the remaining available funds and assets shall be insufficient to permit the payment to holders of Series G convertible preferred stock of their full liquidation preference, then the entire amount of available funds and assets shall be

distributed ratably according to the number of outstanding shares of Series G convertible preferred stock held by each holder thereof.

- Then, following the payment of the liquidation preferences described in the immediately preceding bullets, holders of Series F convertible preferred stock shall be entitled to receive, prior and in preference to any payment or distribution to any of the Company's other stockholders (except as described in immediately preceding bullets), an amount per share equal to $0.9280000 plus any declared but unpaid dividends on such Series F convertible preferred stock. If the remaining available funds and assets shall be insufficient to permit the payment to holders of Series F convertible preferred stock of their full liquidation preference, then the entire amount of available funds and assets shall be distributed ratably according to the number of outstanding shares of Series F convertible preferred stock held by each holder thereof.

- Then, following the payment of the liquidation preferences described in the immediately preceding bullets, holders of Series E convertible preferred stock shall be entitled to receive, prior and in preference to any payment or distribution to any of the Company's other stockholders (except as described in immediately preceding bullets), an amount per share equal to $0.8584483 plus any declared but unpaid dividends on such Series E convertible preferred stock. If the remaining available funds and assets shall be insufficient to permit the payment to holders of Series E convertible preferred stock of their full liquidation preference, then the entire amount of available funds and assets shall be distributed ratably according to the number of outstanding shares of Series E convertible preferred stock held by each holder thereof.

- Then, following the payment of the liquidation preferences described in the immediately preceding bullets, holders of Series D convertible preferred stock shall be entitled to receive, prior and in preference to any payment or distribution to any of the Company's other stockholders (except as described in immediately preceding bullets), an amount per share equal to $0.6663973 plus any declared but unpaid dividends on such Series D convertible preferred stock. If the remaining available funds and assets shall be insufficient to permit the payment to holders of Series D convertible preferred stock of their full liquidation preference, then the entire amount of available funds and assets shall be distributed ratably according to the number of outstanding shares of Series D convertible preferred stock held by each holder thereof.

- Then, following the payment of the liquidation preferences described in the immediately preceding bullets, the holders of each share of Series A, Series B and Series C-1 convertible preferred stock (the "junior convertible preferred stock") then outstanding shall be entitled to receive, prior and in preference to any payment or distribution to any of the Company's other stockholders (except as described in the immediately preceding bullets), an amount per each particular share of junior convertible preferred stock equal to the product obtained by multiplying (x) $32,000,000 by (y) a quotient, (a) the numerator of which equals the sum of the original issue price for such particular share of junior convertible preferred stock, plus all declared but unpaid dividends on such particular share of junior convertible preferred stock; and (b) the denominator of which equals the sum of the original issue price for all shares of junior convertible preferred stock (calculated as the sum of (i) the original issue price for the Series A convertible preferred stock ($0.8209000 per share) multiplied by the number of shares of Series A convertible preferred stock outstanding, (ii) the original issue price for the Series B convertible preferred stock ($2.1502753 per share)) multiplied by the number of shares of Series B convertible preferred stock outstanding, and (iii) the original issue price for the Series C-1 convertible preferred stock ($2.1502753 per share) multiplied by the number of shares of Series C-1 convertible preferred stock outstanding, plus all declared but unpaid dividends on all shares of junior convertible preferred stock (the "junior convertible preferred liquidation preference"). If the available funds and assets shall be insufficient to permit the payment to holders of the junior convertible preferred stock of their junior convertible preferred liquidation preference, then the remaining available funds and assets shall be distributed ratably among the holders of junior convertible preferred stock on an equal priority, pari passu basis, in proportion to the full preferential amount each such holder is otherwise entitled to receive.

- Then, following the payment of the liquidation preferences described in the immediately preceding bullets, any remaining available funds and assets shall be distributed solely among the holders of the then-outstanding Series D convertible preferred stock and common stock pro rata according to the number of shares of common stock held by each holder thereof (based on an as converted to common stock basis), provided, however, that the aggregate amount which the holders of Series D convertible preferred stock shall be entitled to receive shall not exceed three times the original issue price per share for the Series D convertible preferred stock.

Conversion—Each share of convertible preferred stock is convertible into a number of shares of common stock, which results from dividing the original issue price of such series of convertible preferred stock by the corresponding conversion price for such series of convertible preferred stock that is in effect at the time of conversion. As of December 31, 2016 and June 30, 2017, each 10 shares of convertible preferred stock with the exception of Series C-1 will convert into one share of common stock and each 10 shares of Series C-1 will convert into 1.16454 shares of common stock. All shares of convertible preferred stock will be converted automatically into shares of common stock (1) immediately prior to the closing of the sale of the Company's common stock in a firm commitment underwritten public offering registered under the Securities Act of 1933, as amended, for aggregate proceeds to the Company exceeding $30 million or (2) upon the Company's receipt of the written consent of the holders of (a) not less than a majority of the then-outstanding shares of all convertible preferred stock (voting together as a separate class, on an as-converted to common stock basis), (b) not less than 60% of the then-outstanding shares of Series D convertible preferred stock voting as a separate class, (c) not less than a majority of each the then-outstanding shares of Series E, Series F and Series G convertible preferred stock, each voting as a separate class, and (d) not less than a majority of the then-outstanding shares of Series H convertible preferred stock, voting as a separate class, in each case to the conversion of all then-outstanding convertible preferred stock; provided that, in the case of (d), if there are two or more unaffiliated holders that, together with their affiliates, hold 1,500,000 or more shares of outstanding Series H convertible preferred stock, the affirmative vote of at least two such holders shall be required.

Voting Rights—Each holder of convertible preferred stock has voting rights and powers equal to an equivalent number of shares of common stock into which it is convertible and equal to the voting rights and powers of the common stock. Fractional votes are not permitted and are rounded to the nearest whole number.

Redemption—The convertible preferred stock is not redeemable at the option of the holders of the convertible preferred stock.

Board of Directors—Holders of the common stock, voting as a separate class, shall be entitled to elect two of eight directors of the Company. Holders of convertible preferred stock, voting as a separate class, are entitled to elect five members of the board of directors, so long as at least 1,000,000 shares of convertible preferred stock remain outstanding, and are entitled with the holders of the common stock, voting together as a single class on an as-converted to common stock basis, to elect one member of the board of directors.

13. Common Stock

The Company's certificate of incorporation, as of December 31, 2016 and as of June 30, 2017, authorized the Company to issue up to 307,000,000 and 316,000,000 shares of common stock at $0.00001 par value per share, respectively. Each share of common stock is entitled to one vote. The holders of common stock are also entitled to receive dividends out of funds legally available therefore, when and if declared by the board of directors, subject to the approval and priority rights of holders of all classes of convertible preferred stock outstanding. No dividends have been declared to date. The Company had shares of common stock reserved for issuance as follows:

	As of December 31,		
	December 31, 2015	December 31, 2016	As of June 30, June 30, 2017
			(unaudited)
Conversion of convertible preferred stock	19,807,645	19,841,138	20,816,754
Conversion of convertible preferred stock warrants	1,593,257	1,559,764	584,148

Outstanding options to purchase common stock	4,827,785	2,906,596	3,882,957
Future grants under stock option plans	575,182	537,191	218,202
Total shares reserved for issuance	26,803,869	24,844,689	25,502,061

Common Stock Warrants—During 2007, the Company issued warrants to consultants as consideration for services performed. The warrants were fully vested and exercisable for an aggregate of 12,151 shares of common stock at $3.60 per share. During 2014, 1,388 shares of common stock underlying the warrants were exercised and the remainder of the warrants expired unexercised.

Stock Option Plan—Under the Company's equity incentive plan (the "Plan"), 537,191 shares of common stock have been reserved at December 31, 2016 and 218,202 shares of common stock have been reserved at June 30, 2017 for the issuance of incentive stock options ("ISO"); nonstatutory stock options ("NSO"); or the sales of restricted common stock to employees, officers, directors, and consultants of the Company. The exercise price of an option is determined by the board of directors when the option is granted and may not be less than 85% of the fair market value of the shares on the date of grant, provided that the exercise price of an ISO is not less than 100% of the fair market value of the shares on the date of grant and the exercise price of any option granted to a 10% stockholder is not less than 110% of the fair market value of the shares on the date of grant. ISOs granted under the Plan generally vest 25% after the completion of 12 months of service and the balance in equal monthly installments over the next 36 months of service and expire 10 years from the grant date. NSOs vest as per the specific agreement and expire 10 years from the date of grant. The Plan allows for early exercise of options prior to full vesting as determined by the board of directors and set forth in the stock option agreements governing such options. Exercises of unvested options are subject to repurchase by the Company at not less than the original exercise price upon termination of employment. For each of the years ended December 31, 2014, 2015 and 2016 and the six months ended June 30, 2017, there was a de minimis amount of shares subject to repurchase.

Activity under the Company's stock option plan is set forth below:

	Number of SharesAvailable forIssuance	Number of Shares	Weighted AverageExercisePrice	Weighted-AverageRemainingContractualTerm (Years)	Aggregate Intrinsic Value(in thousands)
Balance—January 1, 2015	306,281	3,912,509	$1.80	6.9	$2,965
Shares authorized for grant	1,900,000	—			
Granted	(1,678,510)	1,678,510	$3.43		
Exercised	—	(715,823)	$1.92		
Canceled	47,411	(47,411)	$2.10		
Balance—December 31, 2015	575,182	4,827,785	$2.38	7.2	$9,759
Shares authorized for grant	500,000	—			
Granted	(570,939)	570,939	$4.32		
Exercised	—	(2,459,180)	$1.85		
Canceled	32,948	(32,948)	$3.11		
Balance—December 31, 2016	537,191	2,906,596	$3.20	8.1	$4,941
Shares authorized for grant (unaudited)	900,000	—			
Granted (unaudited)	(1,261,932)	1,261,932	$6.98		
Exercised (unaudited)	—	(242,628)	$2.97		
Canceled (unaudited)	42,943	(42,943)	$3.81		

Balance—June 30, 2017 (unaudited)	218,202	3,882,957	$4.44	8.2	$21,216
Vested and exercisable—December 31, 2016		1,208,989	$2.40	6.9	$2,994
Vested and exercisable—June 30, 2017 (unaudited)		1,749,266	$2.67	6.7	$16,678
Vested and expected to vest[(1)]—December 31, 2016		2,698,827	$3.10	8.0	$4,740
Vested and expected to vest[(1)]—June 30, 2017 (unaudited)		3,882,957	$4.44	8.2	$21,216

(1) Options expected to vest reflect an estimated forfeiture rate.

As of December 31, 2015 and 2016, approximately $2.4 million and 2.4 million of unrecognized stock compensation costs related to awards were expected to be recognized over a weighted-average period of 3.4 years and 2.8 years, respectively. As of June 30, 2017, approximately $5.5 million of unrecognized stock compensation costs related to awards were expected to be recognized over a weighted-average period of 3.5 years.

The aggregate intrinsic value of options exercised during the years ended December 31, 2014, 2015 and 2016 was $0.2 million, $1.5 million and $6.3 million, respectively. The aggregate intrinsic value of options exercised during the six months ended June 30, 2017 was $1.0 million.

The weighted-average grant-date fair value of options granted during the years ended December 31, 2014, 2015 and 2016, was $0.91, $1.48 and $1.59 per share, respectively. The weighted-average grant-date fair value of options granted during the six months ended June 30, 2017, was $2.94 per share.

Determining Fair Value of Stock Options to Employees—The fair value of each grant of stock options to the Company's employees was determined by the Company using the methods and assumptions discussed below. Each of these inputs is subjective and generally requires significant judgment.

Fair Value of Common Stock—The fair value of the shares of common stock underlying the stock options has historically been the responsibility of and determined by the Company's board of directors. Because there has been no public market for the Company's common stock, the board of directors determined fair value of common stock at the time of grant of the option by considering a number of objective and subjective factors including independent contemporaneous third-party valuations of the Company's common stock, the Company's operating and financial performance, the lack of liquidity of the Company's capital stock and general and industry specific economic outlooks, amongst other factors.

Expected Term—The expected term of stock options represents the weighted-average period the stock options are expected to be outstanding. For option grants that are considered to be "plain vanilla", the Company has opted to use the simplified method for estimating the expected term, which calculates the expected term as the average of the time-to-vesting and the contractual life of the options.

Expected Volatility—The expected stock price volatility assumption was determined by examining the historical volatilities of a group of industry peers, as the Company does not have any trading history for the Company's common stock. The Company will continue to analyze the historical stock price volatility and expected term assumptions as more historical data for the Company's common stock becomes available.

Risk-Free Interest Rate—The risk-free rate assumption was based on U.S. Treasury instruments with terms that were consistent with the expected term of the Company's stock options.

Expected Dividend—The expected dividend yield was 0% as the Company has not paid, and does not expect to pay, cash dividends in the foreseeable future.

Forfeiture Rate—Prior to the adoption of ASU 2016-09, the Company was required to estimate forfeitures at the time of grant, and revise those estimates in subsequent periods if actual forfeitures differ from those estimates. The Company adopted ASU 2016-09 in the first quarter of 2017 and elected to account for forfeitures when they occur.

The calculated fair value of option grants was estimated using the Black-Scholes model with the following assumptions for which options were granted:

	Year Ended December 31,			Six Months Ended June 30,	

	2015	2016	2016	2017
				(unaudited)
Risk-free interest rate	1.51% - 2.32%	1.46% - 2.43%	1.46% - 1.88%	1.94% - 2.40%
Expected term	5.3 - 10 yrs	6.1 - 10 yrs	6.1 - 10 yrs	6.1 - 9.6 yrs
Expected dividends	0%	0%	0%	0%
Volatility	41% - 42%	30% - 34%	34%	27% - 30%

Stock-Based Compensation Expense—The Company uses the straight-line vesting attribution method to record stock-based compensation expense. Stock-based compensation expense recognized in the consolidated statements of operations and comprehensive loss was as follows (in thousands):

	Year Ended December 31,		Six Months Ended June 30,	
	2015	2016	2016	2017
			(unaudited)	
Cost of revenue	$19	$31	$15	$14
Research and development	373	489	206	293
Sales and marketing	71	95	46	64
General and administrative	329	324	182	178
Total	$792	$939	$449	$549

No income tax benefit associated with stock-based compensation expense was recognized in the consolidated statements of operations and comprehensive loss for the years ended December 31, 2014, 2015 and 2016 and the six months ended June 30, 2016 and 2017.

Early Exercise of Common Stock and Associated Promissory Notes—During the years ended December 31, 2009 and 2010, the Company granted options, with a four-year vesting period, to two executives to purchase 1,296,714 shares of common stock at exercise prices ranging from $1.10 per share to $2.1 per share. These options were early exercised through promissory notes with interest ranging from 1.73% to 1.94% and collateralized by the stock issued upon the exercise of the stock options. Interest is compounded annually and principal is due no later than June 2018 for the 2009 notes related to 642,690 shares of common stock and no later than February 2019, March 2019, and November 2019 for the 2010 notes related to 569,117, 33,000, and 51,908 shares of common stock, respectively. The Company accounted for the promissory notes as nonrecourse promissory notes and the related shares as outstanding stock options. On April 18, 2014, $175,000 of interest was forgiven in the form of a bonus to one executive pertaining to these promissory notes. No other principal or interest payments had been made as of December 31, 2015.

During the first quarter of 2016, the outstanding promissory notes and interest related to the exercise of the 1,296,714 shares of common stock was repaid in full with the exception of $42,000 of interest, which was forgiven. At the time of repayment, the amount of principal and interest was recorded as additional paid in capital and the underlying common stock was no longer considered to be outstanding stock options.

14. Income Taxes

The following table represents domestic and foreign components of income (loss) before income taxes for the periods presented (in thousands):

	Year Ended December 31,		
	2014	2015	2016
Domestic	$(27,869)	$(10,128)	$(992)
Foreign	125	373	715
Total	$(27,744)	$(9,755)	$(277)

The Company's provision for income taxes was as follows (in thousands):

	Year Ended December 31,		
	2014	2015	2016
Current:			
Federal	$—	$63	$(63)

State	1	9	1
Foreign	55	128	230
Total	$56	$200	$168

Reconciliation of the statutory federal income tax rate to the Company's effective income tax rate is as follows:

	Year Ended December 31,		
	2014	2015	2016
Federal tax at statutory rate	34%	34%	34%
Foreign taxes	—	—	5
State taxes	7	(71)	316
Change in warrant valuation	—	(37)	(66)
Stock-based compensation	—	(2)	(80)
Research and development credit	2	(11)	343
Changes in reserves for uncertain tax positions	—	—	(731)
Change in valuation allowance	(43)	85	114
Other	—	—	4
Total	—%	(2)%	(61)%

Significant components of the Company's net deferred tax assets were as follows (in thousands):

	Year Ended December 31,	
	2015	2016
Deferred tax assets:		
Net operating loss carryforwards	$50,452	$49,124
Tax credit carryforwards	7,069	7,025
Accruals recognized in different periods	3,030	1,389
Fixed assets depreciation	246	223
Stock-based compensation	545	69
Other	318	627
Gross deferred tax assets:	61,660	58,457
Deferred tax liabilities:		
Fixed assets	—	—
Valuation allowance	(61,660)	(58,457)
Total net deferred tax assets	$—	$—

Income taxes are recorded using the asset and liability method. Deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis and net operating loss and tax credit carryforwards.

Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income (or loss) in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized as income tax expense (benefit) in the period that includes the enactment date. Valuation allowances are established when it is more likely than not that some portion of the deferred tax assets will not be realized.

Based on the available objective evidence, both positive and negative, management believes that it is more likely than not that the net deferred tax assets will not be realized. Accordingly, the Company has provided a full valuation allowance against net deferred tax assets as of December 31, 2014, 2015 and 2016. The valuation allowance for deferred tax assets was $79.8 million, $61.7 million and $58.5 million

as of December 31, 2014, 2015 and 2016, respectively. The change in the valuation allowance for the years ended December 31, 2014, 2015 and 2016 was $12.0 million, $(18.1) million and $(3.2) million, respectively. The changes were primarily the result of a $20.6 million decrease in net operating loss carryforwards in 2015 and $1.6 million decrease in accruals in 2016.

At December 31, 2016, the Company had net operating loss ("NOL") carryforwards of approximately $171.3 million and $102.3 million for federal and state income tax purposes, respectively. The NOL carryforwards begin to expire in 2025 and 2017 for federal and state purposes, respectively.

At December 31, 2016, the Company had research and development tax credit carryforwards of approximately $6.1 million and $6.8 million for federal and state income tax purposes, respectively. The federal tax credit carryforwards begin to expire in 2026 and the state tax credits carry forward indefinitely.

Internal Revenue Code Section 382 and similar California rules place a limitation on the amount of taxable income that can be offset by NOL carryforwards after a change in control (generally greater than 50% change in ownership). Generally, after a control change, a corporation cannot deduct NOL carryforwards in excess of the Section 382 limitations. Due to these provisions, utilization of NOL and tax credit carryforwards may be subject to annual limitations regarding their utilization against taxable income in future periods. The Company completed a Section 382 analysis in 2016 and determined an ownership change occurred in July 2005 and November 2009, which resulted in reductions to the U.S. federal and California net operating losses of $35.5 million and $34.3 million, respectively, and U.S. federal research and development credits by $1.8 million.

Reconciliation of the beginning and ending balances of the gross unrecognized tax benefits during the years ended December 31, 2014, 2015 and 2016 were as follows (in thousands):

	Year Ended December 31,		
	2014	2015	2016
Unrecognized benefits - beginning of period	$—	$—	$4,100
Increases in balances related to tax positions taken during a prior period	—	—	—
Increases in balances related to tax positions taken during the current period	—	4,100	224
Decreases in balances related to tax positions taken during a prior period	—	—	(1)
Unrecognized benefits - end of period	$—	$4,100	$4,323

The Company's policy is to classify interest and penalties associated with unrecognized tax benefits as income tax expense. The Company had no interest or penalty accruals associated with uncertain tax benefits in its balance sheets and statements of operations and comprehensive loss for the years ended December 31, 2014, 2015 or 2016.

Although the Company files U.S. federal and various state tax returns, the Company's only major tax jurisdictions are the United States and California. As a result of NOL carryforwards, all of the Company's tax years are open to federal and state examination in the United States. All tax years are open to examination in various foreign countries.

The Company does not provide for federal income taxes on the undistributed earnings of its foreign subsidiaries as such earnings are determined to be reinvested indefinitely. Upon distribution of those earnings in the form of dividends or otherwise, the Company may be subject to U.S. federal and state income taxes, the determination of which is not practical as it is dependent on the amount of U.S. tax losses or other tax attributes available at the time of repatriation. As of December 31, 2016, undistributed earnings of the Company's foreign subsidiaries amounted to approximately $1.0 million.

15. Net Loss and Unaudited Pro Forma Net Loss Per Share

The following table summarizes the computation of basic and diluted net loss per share attributable to common stockholders (in thousands, except share and per share data):

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
				(unaudited)	
Net loss—basic and diluted	$(27,800)	$(9,955)	$(445)	(675)	$(3,357)
Weighted-average shares used to compute basic and diluted net loss per share attributable to common stockholders	1,119,632	1,498,233	4,240,461	4,055,411	4,549,015
Basic and diluted net loss per share attributable to common stockholders	$(24.83)	$(6.64)	$(0.10)	(0.17)	$(0.74)

Basic net loss per share attributable to common stockholders is computed by dividing the net loss by the weighted-average number of common shares outstanding for the period. Basic and diluted net loss per share attributable to common stockholders is presented in conformity with the two-class method required for participating securities as the holders of the Company's convertible preferred stock are entitled to receive non-cumulative dividends, payable prior and in preference to any dividends on shares of the common stock. Any additional dividends will be distributed among the holders of convertible preferred stock and common stock pro rata, assuming the conversion of all convertible preferred stock into common stock. Under the two-class method, net income attributable to common stockholders is determined by allocating undistributed earnings, calculated as net income less current period earnings allocated to preferred stockholders based on their respective rights to receive dividends. In computing diluted net income attributed to common stockholders, undistributed earnings are re-allocated to reflect the potential impact of dilutive securities. Basic net income per common share is computed by dividing the net income attributable to common stockholders by the weighted-average number of common shares outstanding during the period. The Company's convertible preferred stockholders do not have a contractual obligation to share in the Company's losses. As such, the net loss is attributed entirely to the common stockholders. Because the Company has reported a net loss attributable to common stockholders for the years ended December 31, 2014, 2015 and 2016 and the six months ended June 30, 2016 and 2017, diluted net loss per common share is the same as basic net loss per common share for those periods.

The following potentially dilutive securities outstanding have been excluded from the computation of diluted weighted-average shares outstanding because such securities have an antidilutive impact due to losses reported (in common stock equivalent shares):

	Year Ended December 31,			Six Months Ended June 30,	
	2014	2015	2016	2016	2017
				(unaudited)	
Stock options to purchase common stock	3,502,855	4,264,705	2,831,850	2,808,591	3,184,168
Convertible preferred stock	16,977,342	18,952,243	19,833,828	19,827,724	20,148,377
Convertible preferred stock warrants	536,753	1,367,114	1,559,764	1,767,366	584,148
Total	21,016,950	24,584,062	24,225,442	24,403,681	23,916,693

The unaudited pro forma basic and diluted net loss per share attributable to common stockholders for the year ended December 31, 2016 and the six months ended June 30, 2017 give effect to the automatic conversion of outstanding shares of all outstanding convertible preferred stock into 19,841,138 shares and 20,816,754 shares of common stock, respectively, upon an initial public offering as if they had been converted to common stock and such shares were outstanding. The issuances of the shares are assumed to have occurred as of the beginning of the fiscal period or date of issuance, whichever is later. As the Company incurred a net loss for the years ended December 31, 2014, 2015 and 2016 and the six months ended June 30, 2016 and 2017, there is no income allocation required under the two-class method or dilution attributed to pro forma weighted-average shares outstanding in the calculation of pro forma diluted loss per share for those periods.

Unaudited pro forma basic and diluted net loss per share attributable to common stockholders is computed as follows (in thousands, except share and per share data):

	Year Ended December 31,2016	Six months Ended June 30, 2017
Pro forma loss per share attributable to common stockholders—basic and diluted numerator:		
Net loss attributable to common stockholders	$(445)	$(3,357)
Less: change in fair value of convertible preferred stock warrant liability	544	1,700
Pro forma net income (loss) attributable to common stockholders	$99	$(1,657)
Denominator:		
Weighted-average shares used to compute basic and diluted net loss per share	4,240,461	4,549,015
Adjustments to reflect the assumed conversion of convertible preferred stock	19,833,828	20,148,377
Pro forma weighted-average number of shares outstanding—basic	24,074,289	24,697,392
Effect of dilutive shares:		
Add: stock options to purchase common stock	2,831,850	—
Add: convertible preferred stock warrants	1,559,764	—

Pro forma weighted-average number of shares outstanding—diluted	28,465,903	24,697,392
Pro forma net income (loss) per share attributable to common stockholders—basic and diluted	$0.00	$(0.07)

16. Related Party Transaction

In 2016, the Company entered into an agreement with a significant stockholder to license certain technology intended to be incorporated into the Company's products under development. Under this agreement, the Company agreed to pay an initial $2.0 million licensing fee and additional licensing fees at a later point of the development program upon the achievement of certain development milestones. In addition, royalties may be due on products sold utilizing the licensed technology. From time to time, the Company also purchases tooling, mask sets, wafers and services from this stockholder in its ordinary course of business. For the year ended December 31, 2016, the Company recorded the license amount of $5.4 million to intangible assets, net representing $2.1 million fees paid and $3.3 million for the portion due upon milestones completion which was included in accrued and other long-term liabilities in relation to the IP license. Starting in 2016, the Company recorded $4.2 million and $1.8 million to research and development expenses, inventory and cost of revenue for the year ended December 31, 2016 and six months ended June 30, 2017, respectively, in relation to toolings, mask sets, wafers and services. At June 30, 2017, the total balance due this stockholder was $3.2 million which was included in accrued, accounts payable and other long-term liabilities.

17. Employee Benefit Plan

The Company has established a 401(k) plan, which permits participants to make contributions by salary deduction pursuant to Section 401(k) of the Internal Revenue Code. The Company may, at its discretion, make matching contributions to the 401(k) Plan. The Company has made no contributions to the 401(k) Plan since its inception.

18. Subsequent Event

In connection with the Company's initial issuance of the December 31, 2016 audited annual financial statements, the Company evaluated subsequent events for financial statement recognition purposes through February 28, 2017 (except for the exercise of warrants in May 2017 discussed below and for the reverse stock split effected on October 5, 2017 discussed in Note 2).

On May 5, 2017, GLOBALFOUNDRIES exercised its fully vested warrants to purchase 9,756,160 shares of Series H convertible preferred stock at an exercise price of $0.01 per share. As a result, $10.7 million was reclassed from convertible preferred stock warrant liability to convertible preferred stock.

In connection with the Company's issuance of the June 30, 2017 unaudited interim financial statements, the Company evaluated subsequent events for financial statement recognition purposes through October 6, 2017.

Part Ii

Information Not Required in Prospectus

Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth all costs and expenses, other than underwriting discounts and commissions, payable by Aquantia Corp. (the "Registrant") in connection with the sale of the common stock being registered. All amounts shown are estimates except for the Securities and Exchange Commission, or the SEC, registration fee, the Financial Industry Regulatory Authority, Inc., or FINRA, filing fee and listing fee.

	Amount
SEC registration fee	$10,739
FINRA filing fee	13,438
NYSE filing fee	25,000
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees and expenses	*
Miscellaneous fees and expenses	*

Total	$ *

* To be provided by amendment.

Item 14. Indemnification of Directors and Officers.

The Registrant is incorporated under the laws of the State of Delaware. Section 145 of the Delaware General Corporation Law provides that a Delaware corporation may indemnify any persons who were, are, or are threatened to be made, parties to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person is or was an officer, director, employee or agent of such corporation, or is or was serving at the request of such corporation as an officer, director, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided that such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was illegal. A Delaware corporation may indemnify any persons who were, are, or are threatened to be made, a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person is or was a director, officer, employee or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him or her against the expenses (including attorneys' fees) actually and reasonably incurred.

The Registrant's amended and restated certificate of incorporation provides for the indemnification of its directors to the fullest extent permitted under the Delaware General Corporation Law. The Registrant's amended and restated bylaws provide for the indemnification of its directors and officers to the fullest extent permitted under the Delaware General Corporation Law. Each of the Registrant's amended and restated certificate of incorporation and amended and restated bylaws will become effective upon the closing of this offering.

Section 102(b)(7) of the Delaware General Corporation Law permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duties as a director, except for liability for any:

- transaction from which the director derives an improper personal benefit;
- act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or redemption of shares; or
- breach of a director's duty of loyalty to the corporation or its stockholders.

The Registrant's amended and restated certificate of incorporation includes such a provision. Under the Registrant's amended and restated bylaws, expenses incurred by any director or officers in defending any such action, suit or proceeding in advance of its final disposition shall be paid by the Registrant upon delivery to it of an undertaking, by or on behalf of such director or officer, to repay all amounts so advanced if it shall ultimately be determined that such director or officer is not entitled to be indemnified by the Registrant, as long as such undertaking remains required by the Delaware General Corporation Law.

Section 174 of the Delaware General Corporation Law provides, among other things, that a director who willfully or negligently approves of an unlawful payment of dividends or an unlawful stock purchase or redemption, may be held liable for such actions. A director who was either absent when the unlawful actions were approved or dissented at the time may avoid liability by causing his or her dissent to such actions to be entered in the books containing minutes of the meetings of the board of directors at the time such action occurred or immediately after such absent director receives notice of the unlawful acts.

As permitted by the Delaware General Corporation Law, the Registrant has entered into indemnity agreements with each of its directors and officers that require the Registrant to indemnify such persons against any and all costs and expenses (including attorneys', witness or other professional fees) actually and reasonably incurred by such persons in connection with any action, suit or proceeding (including

derivative actions), whether actual or threatened, to which any such person may be made a party by reason of the fact that such person is or was a director or officer or is or was acting or serving as an officer, director, employee or agent of the Registrant or any of its affiliated enterprises. Under these agreements, the Registrant is not required to provide indemnification for certain matters, including:

- indemnification beyond that permitted by the Delaware General Corporation Law;
- indemnification for any proceeding with respect to the unlawful payment of remuneration to the director or officer;
- indemnification for certain proceedings involving a final judgment that the director or officer is required to disgorge profits from the purchase or sale of the Registrant's stock;
- indemnification for proceedings involving a final judgment that the director's or officer's conduct was in bad faith, knowingly fraudulent or deliberately dishonest or constituted willful misconduct (but only to the extent of such specific determination) or a breach of his or her duty of loyalty or resulting in any personal profit or advantage to which the director or officer is not legally entitled;
- indemnification for proceedings or claims brought by an officer or director against the Registrant or any of the Registrant's directors, officers, employees or agents, except for (i) claims to establish or enforce a right of indemnification, (ii) claims approved by the Registrant's board of directors, or (iii) claims required by law;
- indemnification for settlements the director or officer enters into without the Registrant's consent; or
- indemnification in violation of any undertaking required by the Securities Act of 1933, as amended (the "Securities Act") or in any registration statement filed by the Registrant.

The indemnification agreements also set forth certain procedures that will apply in the event of a claim for indemnification thereunder.

There is at present no pending litigation or proceeding involving any of the Registrant's directors or executive officers as to which indemnification is required or permitted, and the Registrant is not aware of any threatened litigation or proceeding that may result in a claim for indemnification.

The Registrant intends to enter into an insurance policy in place that covers its officers and directors with respect to certain liabilities, including liabilities arising under the Securities Act or otherwise.

The Registrant plans to enter into an underwriting agreement which provides that the underwriters are obligated, under some circumstances, to indemnify the Registrant's directors, officers and controlling persons against specified liabilities, including liabilities under the Securities Act.

Item 15. Recent Sales of Unregistered Securities.

The following sets forth information regarding all unregistered securities sold by the Registrant since January 1, 2014:

(1)	From January 1, 2014 to September 30, 2017, we granted stock options to purchase an aggregate of 4,941,004 shares of common stock at exercise prices ranging from $2.00 to $9.90 per share to our employees, consultants and directors under the 2004 plan and its successor plan, the 2015 plan. Pursuant to the exercise of certain of these options, from January 1, 2014 to September 30, 2017, we issued to our employees, consultants and directors 2,387,902 shares of common stock for cash consideration in the aggregate amount of $5,030,000;
(2)	In April 2013, December 2014, January 2015 and March 2015 we issued warrants to accredited investors for up to 646,551 shares of our Series F preferred stock at an exercise price of $0.928 per share, up to 640,129 shares of our Series G preferred stock at an exercise price of $1.4314298 per share, up to 196,831 shares of our Series G preferred stock at an exercise price of $1.4314298 per share, and up to 9,756,160 shares of our Series H preferred stock at an exercise price of $0.01 per share, respectively.
(3)	In June 2013, we issued 4,651,083 shares of our Series D preferred stock and 1,547,378 shares of our Series E preferred stock to accredited investors, in each case pursuant to the exercise of outstanding warrants.
(4)	From January 2014 through July 2014, we issued an aggregate of 13,972,043 shares of our Series G preferred stock to 33 accredited investors at a price per share equal to $1.4314298 for an aggregate purchase price of approximately $20,000,000.
(5)	From March 2015 through July 2015, we issued 25,848,278 shares of our Series H preferred stock to 24 accredited investors at a price per share equal to $1.4314298 for an aggregate purchase price of approximately $37,000,000.

The offers, sales and issuances of the securities described in paragraph (1) above were deemed to be exempt from registration under the Securities Act in reliance on Rule 701 in that the transactions were under compensatory benefit plans and contracts relating to compensation as provided under Rule 701. The recipients of such securities were employees, directors or bona fide consultants of the Registrant and received the securities under the Registrant's 2004 and 2015 equity incentive plans. Appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions had adequate access, through employment, business or other relationships, to information about the Registrant.

The offers, sales and issuances of the securities described in paragraphs (2) through (5) above were deemed to be exempt from registration under the Securities Act in reliance on Section 4(2) of the Securities Act and Rule 506 promulgated under Regulation D promulgated thereunder as transactions by an issuer not involving a public offering. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions was an accredited investor within the meaning of Rule 501 of Regulation D under the Securities Act and had adequate access, through employment, business or other relationships, to information about the Registrant. No underwriters were involved in these transactions.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits.

The list of exhibits is set forth under "Exhibit Index" attached hereto and is incorporated herein by reference.

(b) Financial Statement Schedules.

No financial statement schedules are provided because the information called for is not required or is shown either in the financial statements or the notes thereto.

Item 17. Undertakings.

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer, or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question of whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

(a)	For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
(b)	For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Exhibit Index

ExhibitNumber	Description
1.1	Form of Underwriting Agreement.
3.1	Amended and Restated Certificate of Incorporation, as amended and as currently in effect.
3.2	Form of Amended and Restated Certificate of Incorporation, to be effective upon the closing of this offering.
3.3	Amended and Restated Bylaws, as currently in effect.

3.4	Form of Amended and Restated Bylaws, to be effective upon the closing of this offering.
4.1	Form of Common Stock Certificate of the Registrant.
4.2	Amended and Restated Investors' Rights Agreement, by and among the Registrant and certain of its stockholders, dated March 25, 2015, as amended.
5.1†	Opinion of Cooley LLP.
10.1+	Form of Indemnification Agreement by and between the Registrant and its directors and officers.
10.2+	2004 Equity Incentive Plan, as amended, and Forms of Stock Option Agreement and Notice of Exercise thereunder.
10.3+	2015 Equity Incentive Plan and Forms of Stock Option Agreement, Notice of Exercise and Stock Option Grant Notice thereunder.
10.4	Office Lease Agreement between the Registrant and Kalil Jenab & Tiffany Renee Jenab, Trustees, and James S. Lindsay & Sally K. Lindsay, Trustees, as Tenants in Common, dated April 3, 2015.
10.5+	2016 Executive Bonus Plan of Registrant.
10.6+	Amended and Restated Employment Agreement, dated April 21, 2016, between Faraj Aalaei and the Registrant.
10.7+	Offer of Employment, dated December 10, 2015, between Mark Voll and the Registrant.
10.8+	Offer of Employment by Aquantia Corp., dated November 18, 2009, between Kamal Dalmia and the Registrant.
10.9+	Employment Agreement, dated November 30, 2004, between Ramin Shirani and the Registrant.
10.10	Amended and Restated Loan and Security Agreement, dated December 16, 2014, as amended, between the Registrant and Pinnacle Ventures, L.L.C. and related Subordination Agreement between Pinnacle Ventures, L.L.C. and Hercules Technology Growth Capital, Inc., dated January 30, 2015.
10.11	Loan and Security Agreement, dated January 30, 2015, between the Registrant and Hercules Technology Growth Capital, Inc.
10.12#	Master Purchase Agreement for 10 Gigabit Ethernet Physical Layer Devices, dated January 15, 2009, between the Registrant and Intel Corporation, as amended, and related Addendums.
10.13#	Letter Agreement, dated July 29, 2014, between the Registrant and GLOBALFOUNDRIES U.S. Inc.
10.14+†	2017 Equity Incentive Plan, and Forms of Stock Option Agreement, Notice of Exercise and Stock Option Grant Notice thereunder.
10.15+†	2017 Employee Stock Purchase Plan.
21.1	Subsidiaries of the Registrant.
23.1	Consent of Deloitte & Touche LLP, an Independent Registered Public Accounting Firm.
23.2†	Consent of Cooley LLP. Reference is made to Exhibit 5.1.
24.1	Power of Attorney. Reference is made to the signature page hereto.

† To be filed by amendment.

+ Indicates management contract or compensatory plan.

Confidential treatment has been or will be requested with respect to certain portions of this exhibit. Omitted portions have been filed separately with the SEC.

Signatures

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Jose, State of California, on October 6, 2017.

AQUANTIA CORP.	
By:	/s/ Faraj Aalaei
Faraj Aalaei Chairman, President and Chief Executive Officer	

Power of Attorney. Reference is made to the signature page hereto.

POWER OF ATTORNEY KNOW ALL BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Faraj Aalaei and Mark Voll, and each of them, as his or her true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him or her and in his or her name, place or stead, in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments), and to sign any registration statement for the same offering covered by this registration statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act, and all post-effective amendments thereto, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement on Form S-1 has been signed by the following persons in the capacities and on the dates indicated.

Signature	*Title*	*Date*
/s/ Faraj Aalaei Faraj Aalaei	Chairman, President and Chief Executive Officer *(Principal Executive Officer)*	October 6, 2017
/s/ Mark Voll Mark Voll	Chief Financial Officer *(Principal Financial and Accounting Officer)*	October 6, 2017
/s/ Dmitry Akhanov Dmitry Akhanov	Director	October 6, 2017
/s/ Bami Bastani Bami Bastani	Director	October 6, 2017
/s/ Geoffrey G. Ribar Geoffrey G. Ribar	Director	October 6, 2017
/s/ Ken Pelowski Ken Pelowski	Director	October 6, 2017

Signature	*Title*	*Date*
/s/ Ramin Shirani Ramin Shirani	Senior Vice President, Engineering and Director	October 6, 2017
/s/ Sam Srinivasan Sam Srinivasan	Director	October 6, 2017
/s/ Anders Swahn Anders Swahn	Director	October 6, 2017
/s/ Lip-Bu Tan Lip-Bu Tan	Director	October 6, 2017