

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

**FORM 10-K**

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

For the fiscal year ended March 31, 2019

or

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File Number 001-33387

**GSI Technology, Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**77-0398779**  
(IRS Employer  
Identification No.)

**1213 Elko Drive**  
**Sunnyvale, California 94089**  
(Address of principal executive offices, zip code)

**(408) 331-8800**  
(Registrant's telephone number, including area code)

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

<u>Title of Each Class</u>	<u>Trading Symbol(s)</u>	<u>Name of Each Exchange on which Registered</u>
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Common Stock, \$0.001 par value	GSIT	The Nasdaq Stock Market LLC
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Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

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

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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 Act. (Check one):

Emerging growth company

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

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

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

The aggregate market value of the registrant's voting stock held by non-affiliates of the registrant, based upon the closing sale price of the common stock on September 30, 2018, as reported on the Nasdaq Global Market, was approximately \$114.3 million. Shares of the registrant's common stock held by each officer and director and each person who owns 10% or more of the outstanding common stock of the registrant have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes. As of May 31, 2019, there were 22,892,188 shares of the registrant's common stock issued and outstanding.

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the registrant's definitive proxy statement for its 2019 annual meeting of stockholders are incorporated by reference into Part III hereof.

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**GSI TECHNOLOGY, INC.**  
**2019 FORM 10-K ANNUAL REPORT**  
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## Forward-looking Statements

*In addition to historical information, this Annual Report on Form 10-K includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These forward-looking statements involve risks and uncertainties. Forward-looking statements are identified by words such as "anticipates," "believes," "expects," "intends," "may," "will," and other similar expressions. In addition, any statements which refer to expectations, projections, or other characterizations of future events or circumstances are forward-looking statements. Actual results could differ materially from those projected in the forward-looking statements as a result of a number of factors, including those set forth in this report under "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Risk Factors," those described elsewhere in this report, and those described in our other reports filed with the Securities and Exchange Commission ("SEC"). We caution you not to place undue reliance on these forward-looking statements, which speak only as of the date of this report, and we undertake no obligation to update these forward-looking statements after the filing of this report. You are urged to review carefully and consider our various disclosures in this report and in our other reports publicly disclosed or filed with the SEC that attempt to advise you of the risks and factors that may affect our business.*

## PART I

### Item 1. *Business*

#### Overview

For many years we have developed and marketed high performance memory products, including "Very Fast" static random access memory, or SRAM, that are incorporated primarily in high-performance networking and telecommunications equipment, such as routers, switches, wide area network infrastructure equipment, wireless base stations and network access equipment. We sell these products to leading original equipment manufacturer, or OEM, customers including Nokia. In addition, we serve the ongoing needs of the military, industrial, test and measurement equipment, automotive and medical markets for high-performance SRAMs. Based on the performance characteristics of our products and the breadth of our product portfolio, we consider ourselves to be a leading provider of Very Fast SRAMs. We utilize a fabless business model, which allows us both to focus our resources on research and development, product design and marketing, and to gain access to advanced process technologies with only modest capital investment and fixed costs.

Beginning in November 2015 with the acquisition of an Israeli company, our principal strategic objective has been the development of in-place associative computing solutions for applications in evolving new markets such as "big data" (including machine learning and deep convolutional neural networks ("CNNs")), natural language processing, computer vision, and cyber security. Our commercialization efforts for the initial associative processing unit ("APU") are focused on applications using similarity search, such as visual search in ecommerce and molecular structure similarity search in drug discovery.

We were incorporated in California in 1995 under the name Giga Semiconductor, Inc. We changed our name to GSI Technology in December 2003 and reincorporated in Delaware in June 2004 under the name GSI Technology, Inc. Our principal executive offices are located at 1213 Elko Drive, Sunnyvale, California, 94089, and our telephone number is (408) 331-8800.

#### Industry Background

##### *SRAM Market Overview*

Virtually all types of high-performance electronic systems incorporate some form of volatile memory. An SRAM is a memory device that retains data as long as power is supplied, without requiring any further user

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intervention. In contrast, dynamic random access memory, or DRAM, is a memory device that requires user intervention in the form of refresh operations to retain data while power is supplied, due to the capacitive nature of its memory cell. However, a DRAM memory cell is much smaller than an SRAM memory cell, so several times more DRAM bits than SRAM bits can be implemented in any given unit area of silicon. The fundamentally different characteristics of SRAM and DRAM memory cells have resulted in the emergence of markedly different architectures for SRAM-based and DRAM-based memory products, and the two types of memory serve different applications. Classically, SRAM-based products have served high performance requirements while DRAM-based products have been used in cost-optimized applications. Today, SRAM- and DRAM-based products serve both performance and cost-based applications. As the volatile memory market fragments into a variety of specialized products, more meaningful distinctions between volatile memory products can be made.

There is an increasingly broad variety of volatile memory products on the market, characterized by a number of attributes, such as speed, memory capacity, or density, I/O interface and power consumption. There are several different industry measures of speed:

- *latency*, which is the delay between the request for data and the delivery of such data for use and is measured in nanoseconds, or ns, or when used to describe performance of synchronous memory products may be described in terms of numbers of clock cycles required between the load of an address and the delivery of valid data;
- *random access time*, which is the minimum amount of time required between accesses to random locations within the memory array, typically measured in nanoseconds, or ns;
- *bandwidth*, which is the rate at which data can be streamed to or from a device and is often measured in megabits or gigabits per second (Mb/s or Gb/s);
- *clock frequency*, which is the cycle rate of a clock within a synchronous device and is often measured in megahertz or gigahertz (MHz or GHz); and
- *transaction rate*, which is the rate at which new commands can be executed by the memory device, and is often measured in millions or billions of transactions per second (MT/s or BT/s).

Historically, SRAMs have been utilized wherever other lower price-per-bit memory technologies have been inadequate. SRAMs demonstrate lower latency and faster random access times relative to DRAMs and other types of memory technologies, but at a higher price-per-bit. Historically, the volatile memory market has had three price-performance points, DRAM at the low end, Fast SRAM at the high end, and slow SRAM in the middle. Gartner Dataquest divides the SRAM market into segments based on speed. The highest performance segment is comprised of SRAMs that operate at speeds of less than 10 nanoseconds, which we refer to as “Very Fast SRAMs.” Very Fast SRAMs are predominantly utilized in high-performance networking and telecommunications equipment. Over the past two decades, alternative memory technologies have been introduced to address certain applications that formerly used slow SRAMs. For example, new types of DRAM have displaced slow SRAM in applications such as cell phones. However, in the networking memory market a technology vacuum formed between Fast SRAMs on one end and commodity DRAMs at the other, with no high bandwidth, high transaction rate, moderate capacity, moderate latency, and moderate cost volatile memory product to fill the void. In the past decade, low latency DRAMs, or LLD RAMs, have been developed to fill that void. Like the slow SRAMs that came before them, LLD RAMs have a much higher price-per-bit than commodity DRAMs (in order to deliver higher transaction rates) but demonstrate slower random access times and longer latencies than Fast SRAMs.

The need for increasingly greater capacity, data bandwidth and transaction rates from the various memory technologies continues unabated as the networking market begins to make preparations for Terabit networking in the latter half of the current decade. We believe that Fast SRAM and LLD RAM, optimized for networking applications, will continue to play an essential role in enabling continued improvements in network performance.

We believe the key success factors for a networking memory vendor are the ability to offer a broad catalog of high-performance, high-quality and high-reliability networking memory products, to maintain timely availability of

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prior generations of products for several years after their introductions, and to provide effective logistic and technical support throughout their OEM customers' product development and manufacturing life cycles.

### ***Memory Requirements for “Big Data” Applications***

With the vast amount of data currently being generated and the demand for faster processing of that data, processor speeds are continuing to increase. However, existing systems that move data back and forth between the processor and memory are inadequate to address the fast response times required by “big data” applications (including machine learning, CNNs and natural language processing). Faster response times are also needed to meet the demands of developers in such markets as cyber security and computer vision. For example, in the automotive market, advanced driver assistance systems require a tremendous amount of image processing to be accomplished in real time.

Our commercialization efforts for the APU product are initially focused on similarity search applications. Similarity search uses a technique called distance metric learning, in which learning algorithms measure how similar or related objects are. Our APU is well suited for similarity search because its design enables very fast computation speeds with high degrees of accuracy and scalability for very large datasets. The use of visual search, a subset of similarity search, is forecasted to grow rapidly as AI is adopted by the online retail industry. In software simulations, the APU has demonstrated the ability to increase the rate of computation by orders of magnitude with greater accuracy and reduced power consumption. This kind of performance has the potential to transform online retailers' capabilities and improve customers online shopping experience.

The APU's higher speeds and increased accuracy in similarity search can potentially lower drug discovery costs, an important goal for research organizations dependent on funding. The APU is well suited in drug discovery due to its ability to perform similarity search using very descriptive molecular representations in a virtual environment rather than in a lab setting. This can significantly reduce the cost of developing drugs by virtually screening them. Use of AI products like the APU could reduce costs, increase drug efficacy and safety, and increase speed to market thereby potentially saving billions of dollars. As a result, the APU is getting the attention of pharmaceutical and genomics players.

### **The GSI Solution**

#### ***Continue Leadership in the High Performance Memory Market***

We endeavor to address the overall needs of our OEM customers, not only satisfying their immediate requirements for our latest generation, highest performance networking memory, but also providing them with the ongoing long-term support necessary during the entire lives of the systems in which our products are utilized. Accordingly, the key elements of our solution include:

- *Product Performance Leadership.* Through the use of advanced architectures and design methodologies, we have developed high-performance SRAM and LLDRAM products offering superior high speed performance capabilities and low power consumption, while our advanced silicon process technologies allow us to optimize yields, lower manufacturing costs and improve quality.
- *Product Innovation.* We believe that we have established a position as a technology leader in the design and development of Very Fast SRAMs. We are believed to have the industry's highest density RadHard SRAM, the SigmaQuad-II+, which is an example of our industry-leading product innovation.
- *Broad and Readily Available Product Portfolio.* We have what we believe is the broadest catalog of Very Fast SRAM products.
- *Master Die Methodology.* Our master die methodology enables multiple product families, and variations thereof, to be manufactured from a single mask set so that we are able to maintain a

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common pool of wafers that incorporate all available master die, allowing rapid fulfillment of customer orders and reducing costs.

- *Customer Responsiveness.* We work closely with leading networking and telecommunications OEMs, as well as their chip-set suppliers, to anticipate their requirements and to rapidly develop and implement solutions that allow them to meet their specific product performance objectives.

### ***Development of In-Place Associative Computing Products***

Our in-place associative computing technology addresses the bottleneck caused by the inability of memory bus speeds to keep up with increasing processor speeds by changing the concept of computing from serial data processing – where data is moved back and forth from the processor to the memory – to parallel processing computation and search functions being conducted directly in the main processing array. This computing model has the potential to greatly expedite computation and response times in “big data” applications. We believe that our state-of-the-art circuit design expertise will enable the development of high quality associative processors using our patented, in-place associative computing technology and algorithms to create a new category of computing products with substantial target markets and a large new customer base in those markets. We anticipate the release of our initial APU product to be released in the second half of calendar 2019. Our associative computing products will improve system performance, reducing query response times from hours to seconds and at the same time significantly reducing power consumption and reducing system cost.

### **The GSI Strategy**

Our objective is to profitably increase our market share in the markets that we serve, while developing transformative new products utilizing our cutting-edge in-place associative computing technology. Our strategy includes the following key elements:

- *Continue to Focus on the Networking and Telecommunications Markets.* We intend to continue to focus on designing and developing high transaction rate, low latency, high bandwidth and feature-rich memory products targeted primarily at the networking and telecommunications markets.
- *Complete the Introduction of Our Initial In-place Associative Computing Product.* Our principal strategic objective is the completion of our initial in-place associative computing product. Realization of this goal will require additional development and marketing efforts in calendar 2019, with initial product introduction and customer evaluation expected in the second half of calendar 2019.
- *Exploit Opportunities to Expand the Market for Our Memory Products.* While we develop our high-performance memory products principally for the networking and telecommunications markets, they are often applicable across a wide range of industries and applications. We have experienced growth in product sales for military, industrial, test and measurement, and medical markets and intend to continue penetrating these and other new markets with similar needs for high-performance memory technologies.
- *Strengthen and Expand Customer Relationships.* We are focused on maintaining close relationships with industry leaders to facilitate rapid adoption of our products and to enhance our position as a leading provider of high-performance memory. We work with both our customers and with their non-memory IC suppliers that require high-performance memory support in order to anticipate their future high-performance memory needs and to identify and respond to their immediate requests for currently available products and variants on currently available products.
- *Continue to Invest in Research and Development to Extend Our Technology Leadership.* We believe we have established a position as a technology leader in the design and development of Very Fast SRAMs. Our Very Fast SRAM products most often provide the highest speed available at a given density for a given device configuration. We intend to maintain and advance our technology leadership through continual enhancement of our existing Very Fast SRAM products, particularly our

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SigmaQuad/SigmaDDR family of low latency, high-bandwidth synchronous SRAMs, while we continue to broaden our product line with the introduction of other new high performance memory technologies targeted to address the evolving needs of the high performance memory market.

- *Collaborate with Wafer Foundries to Leverage Leading-edge Process Technologies.* We will continue to rely upon advanced complementary metal oxide semiconductor, or CMOS, technologies, the most commonly used process technologies for manufacturing semiconductor devices, from TSMC for SRAM-based products and from Powerchip for DRAM-based products.
- *Seek New Market Opportunities.* We intend to supplement our internal development activities by seeking additional opportunities to acquire other businesses, product lines or technologies, or enter into strategic partnerships, that would complement our current product lines, expand the breadth of our markets, enhance our technical capabilities, or otherwise provide growth opportunities.

## **Products**

We design, develop and market a broad range of high-performance memory products primarily for the networking and telecommunications markets. We specialize in high performance memory products featuring very high transaction rates, high density, low latency, high bandwidth, fast clock access times and low power consumption. We commit to offering our products for longer periods of time than our competitors, typically seven years or more following their initial introduction. Accordingly, we continue to offer products in a variety of package types that have been discontinued by other suppliers.

We currently offer more than 30 families of SRAMs and one family of LLDRAMs. These basic product configurations are the basis for over 16,000 individual products that incorporate a variety of performance specifications and optional features. Our products can be found in a wide range of networking and telecommunications equipment, including core routers, multi-service access routers, universal gateways, enterprise edge routers, service provider edge routers, optical edge routers, fast Ethernet switches and wireless base stations. We also sell our products to OEMs that manufacture products for military and aerospace applications such as radar and guidance systems and satellites, for professional audio applications such as sound mixing systems, for test and measurement applications such as high-speed testers, for automotive applications such as smart cruise control, and for medical applications such as ultrasound and CAT scan equipment.

We have spent more than three years developing and marketing in-place associative computing solutions, leveraging both the patented technology obtained in our acquisition of MikaMonu Group Ltd. (“MikaMonu”) in November 2015 and our 20-plus years of high-performance SRAM development experience. Our new associative computing solutions, including the APU, will address evolving new markets, such as “big data” (including machine learning and CNNs), natural language processing, computer vision and cyber security with our initial focus in this area being for similarity search applications.

### ***Synchronous SRAM Products***

Synchronous SRAMs are controlled by timing signals, referred to as clocks, which make them easier to use than older style asynchronous SRAMs with similar latency characteristics in applications requiring high bandwidth data transfers. Synchronous SRAMs that employ double data rate interface protocols can transfer data at much higher bandwidth than both single data rate and asynchronous SRAMs. We currently supply synchronous SRAMs that can cycle at operating frequencies as high as 1,333 MHz.

*BurstRAM™ and NBT™ SRAMs.* We currently offer BurstRAMs and No Bus Turnaround, or NBT, SRAMs that implement a single data rate bus protocol. BurstRAMs were originally developed for microprocessor cache applications and have become the most widely used synchronous SRAMs on the market. They are used in applications where large amounts of data are read or written in single sessions, or bursts. NBT SRAMs are a variation on the BurstRAM theme and were developed to address the needs of moderate performance networking

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applications. NBT SRAMs feature a single data rate bus protocol designed to minimize or eliminate wasted data transfer time slots on the bus when BurstRAMs switch from read to write operations. Both families of products can perform burst data transfers or single cycle transfers at the discretion of the user.

Our BurstRAMs and NBT SRAMs are offered in both pipeline and flow-through modes. Flow-through SRAMs allow the shortest latency. Pipelined SRAMs break the access into discrete clock-controlled steps, allowing new access commands to be accepted while an access is already in progress. Therefore, while flow-through SRAMs offer lower latency, pipelined SRAMs offer greater data bandwidth. Our BurstRAM and NBT SRAM products incorporate a number of features that reduce our OEM customers' cost of ownership and increase their design flexibility, including a JTAG test port and our FLXDrive feature, which allows system designers to optimize signal integrity for a given application.

We currently offer BurstRAMs and NBT SRAMs with storage densities of up to 288 megabits with clock frequency of up to 400 MHz and clock access times as fast as 2 nanoseconds that operate at 3.3, 2.5 or 1.8 volts.

*SigmaQuad and SigmaDDR Products.* High-performance double data rate and quad data rate synchronous SRAMs have become the de facto standard for the networking and telecommunications industry. We offer a full line of quad data rate separate I/O SRAMs, known as our SigmaQuad family, as well as a companion line of double data rate common I/O SRAMs, known as our SigmaDDR family. SigmaQuad SRAMs feature two uni-directional (one input and one output) double data rate data ports (two data ports times double data rate transfers equals quad data rate), controlled via a single address and control port. SigmaDDR SRAMs feature a single bi-directional double data rate data port. We currently offer our SigmaQuad and SigmaDDR devices in multiple bus protocol versions and data burst lengths, and with various power supply and interface voltages, all under the names SigmaQuad, SigmaQuad-II, SigmaQuad-IIIe and SigmaQuad-IVe, and their SigmaDDR equivalents. An additional variant in this family of SRAMs is the SigmaSIO DDR, which is designed to address some segments of the market currently served by dual-port SRAMs.

We currently offer SigmaQuad/SigmaDDR products in five storage densities, 18 megabits, 36 megabits, 72 megabits, 144 megabits and 288 megabits. These SRAMs are capable of speeds up to 1,333 MHz and operate on main power supply voltages that range from 2.5 volts to 1.2 volts and interface voltages that range from 1.8 volts to 1.2 volts.

*RadHard and RadTolerant SRAM Products.* We have committed to introduce and market radiation-hardened, or "RadHard", and radiation-tolerant, or "RadTolerant", SRAMs for aerospace and military applications such as networking satellites and missiles. Our initial RadHard and RadTolerant products are 288 megabit devices from our SigmaQuad-II family. The RadHard products are housed in a hermetically-sealed ceramic column grid array package, and undergo a special fabrication process that diminishes the adverse effects of high-radiation environments.

### ***Low Latency DRAM Products***

Our low latency DRAM family fills an under-served market segment between commodity DRAMs and Fast SRAMs. Offering moderate density, moderate speed and moderate cost, LLD RAM technology gives system designers a middle choice when commodity DRAM performance is insufficient but Fast SRAM performance is unnecessary. LLD RAMs offer one-third the latency of commodity DRAMs and four times the density of Fast SRAMs, giving networking equipment designers another tool for solving difficult data management problems.

Our current LLD RAM portfolio includes both 288 megabit and 576 megabit devices that are capable of speeds of up to 533 MHz, and that operate on a 1.8 volt power supply and support both 1.8 volt and 1.5 volt interfaces. They are available in five distinct configurations including common I/O and separate I/O types and data bus widths of x36, x18 and x9. These devices serve as an alternate source for users of a popular, functionally equivalent device from a competing vendor.



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**Customers**

Historically, our primary sales and marketing strategy has been to achieve design wins with leading OEMs in the networking and telecommunications markets and the other markets we serve. With the development of our new in-place associative computing products, we are focusing sales and marketing efforts in the markets for “big data” (including CNNs), natural language processing, computer vision and cyber security with our initial focus in this area being for similarity search applications.

The following is a representative list of our OEM customers that directly or indirectly purchased more than \$500,000 of our products in the fiscal year ended March 31, 2019:

BAE Systems	Ciena	Cisco Systems
General Dynamics	Honeywell	Lockheed
Nokia	Raytheon	Rockwell

Many of our OEM customers use contract manufacturers to assemble their equipment. Accordingly, a significant percentage of our net revenues is derived from sales to these contract manufacturers and to consignment warehouses who purchase products from us for use by contract manufacturers. In addition, we sell our products to OEM customers indirectly through domestic and international distributors.

In the case of sales of our products to distributors and consignment warehouses, the decision to purchase our products is typically made by the OEM customers. In the case of contract manufacturers, OEM customers typically provide a list of approved products to the contract manufacturer, which then has discretion whether or not to purchase our products from that list.

Direct sales to contract manufacturers and consignment warehouses accounted for 41.3%, 34.9% and 39.0% of our net revenues for fiscal 2019, 2018 and 2017, respectively. Sales to foreign and domestic distributors accounted for 56.0%, 62.5% and 57.5% of our net revenues for fiscal 2019, 2018 and 2017, respectively.

The following direct customers accounted for 10% or more of our net revenues in one or more of the following periods:

	Fiscal Year Ended March 31,		
	2019	2018	2017
<b>Contract manufacturers and consignment warehouses:</b>			
Flextronics Technology	21.8 %	14.0 %	10.4 %
Sanmina	17.7	16.0	20.4
<b>Distributors:</b>			
Avnet Logistics	31.3	35.3	25.5
Nexcomm	14.8	16.1	19.7

Nokia was our largest customer in fiscal 2019, 2018 and 2017. Nokia purchases products directly from us and through contract manufacturers and distributors. Based on information provided to us by its contract manufacturers and our distributors, purchases by Nokia represented approximately 45%, 36% and 41% of our net revenues in fiscal 2019, 2018 and 2017, respectively. To our knowledge, none of our other OEM customers accounted for more than 10% of our net revenues in any of these periods.

## **Sales, Marketing and Technical Support**

We sell our products primarily through our worldwide network of independent sales representatives and distributors. As of March 31, 2019, we employed 17 sales and marketing personnel, and were supported by over 200 independent sales representatives, which we believe will enable us to address an expanded customer base with the expected introduction of our associative computing products in fiscal 2020. We believe that our relationship with our U.S. distributor, Avnet, puts us in a strong position to address the Very Fast SRAM and LLDRAM memory markets in the United States. We currently have regional sales offices located in Canada, China, Hong Kong, Israel and the United States. We believe this international coverage allows us to better serve our distributors and OEM customers by providing them with coordinated support. We believe that our customers' purchasing decisions are based primarily on product performance, availability, features, quality, reliability, price, manufacturing flexibility and service. Many of our OEM customers have had long-term relationships with us based on our success in meeting these criteria.

Our sales are generally made pursuant to purchase orders received between one and six months prior to the scheduled delivery date. Because industry practice allows customers to reschedule or cancel orders on relatively short notice, these orders are not firm and hence we believe that backlog is not a good indicator of our future sales. We typically provide a warranty of up to 36 months on our products. Liability for a stated warranty period is usually limited to replacement of defective products.

Our marketing efforts are, first and foremost, focused on ensuring that the products we develop meet or exceed our customers' needs. Historically, those efforts have been focused on defining our high-performance SRAM and LLDRAM product roadmaps by working closely with key customers to understand their roadmaps and to ensure that the products we develop meet their requirements (primary aspects of which include functionality, performance, electrical interfaces, power, and schedule). More recently, our marketing efforts have been expanded to include marketing the new in-place associative computing products that we are developing. Our marketing group also provides technical, strategic and tactical sales support to our direct sales personnel, sales representatives and distributors. This support includes in-depth product presentations, datasheets, application notes, simulation models, sales tools, marketing communications, marketing research, trademark administration and other support functions. We also engage in various marketing activities to increase brand awareness.

We emphasize customer service and technical support in an effort to provide our OEM customers with the knowledge and resources necessary to successfully use our products in their designs. Our customer service organization includes a technical team of applications engineers, technical marketing personnel and, when required, product design engineers. We provide customer support throughout the qualification and sales process and continue providing follow-up service after the sale of our products and on an ongoing basis. In addition, we provide our OEM customers with comprehensive datasheets, application notes and reference designs and access to our FPGA controller IP for use in their product development.

## **Manufacturing**

We outsource our wafer fabrication, assembly and wafer sort testing, which enables us to focus on our design strengths, minimize fixed costs and capital expenditures and gain access to advanced manufacturing technologies. Our engineers work closely with our outsource partners to increase yields, reduce manufacturing costs, and help assure the quality of our products.

Currently, all of our wafers are manufactured by TSMC and Powerchip under individually negotiated purchase orders. We do not currently have a long-term supply contract with either of these foundries, and, therefore, neither of them is obligated to manufacture products for us for any specified period, in any specified quantity or at any specified price, except as may be provided in a particular purchase order. Our future success depends in part on our ability to secure sufficient capacity at TSMC, Powerchip or other independent foundries to supply us with the wafers we require.

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The majority of our current SRAM products are manufactured using 0.13 micron, 90 nanometer, 65 nanometer and 40 nanometer process technologies on 300 millimeter wafers at TSMC. Our LLDRAM production at Powerchip uses 72 nanometer and 63 nanometer process technologies. Our new in-place associative computing products will be manufactured at TSMC initially using 28 nanometer process technology.

Our master die methodology enables multiple product families, and variations thereof, to be manufactured from a single mask set. As a result, based upon the way available die from a wafer are metalized, wire bonded, packaged and tested, we can create a number of different products. The manufacturing process consists of two phases, the first of which takes approximately eight to twelve weeks and results in wafers that have the potential to yield multiple products within a given product family. After the completion of this phase, the wafers are stored pending customer orders. Once we receive orders for a particular product, we perform the second phase, consisting of final wafer processing, assembly, burn-in and test, which takes approximately four to eight weeks to complete. This two-step manufacturing process enables us to significantly shorten our product lead times, providing flexibility for customization and to increase the availability of our products.

All of our manufactured wafers, including wafers for our APU product, are tested for electrical compliance and most are packaged at Advanced Semiconductor Engineering, or ASE, which is located in Taiwan. Our test procedures require that all of our products be subjected to accelerated burn-in and extensive functional electrical testing which is performed at our Taiwan and U.S. test facilities. Our radiation-hardened products are assembled and tested at STS, located near our Sunnyvale, California headquarters facility.

### **Research and Development**

We have devoted substantial resources in the last three years on the development of a new category of in-place associative computing products. Our research and development staff includes engineering professionals with extensive experience in the areas of high-speed circuit design, including SRAM design, DRAM design and systems level networking and telecommunications equipment design, and well suited for the development of our associative computing products. The design process for our products is complex. As a result, we have made substantial investments in computer-aided design and engineering resources to manage our design process.

### **Competition**

Our existing and potential competitors include many large domestic and international companies, some of which have substantially greater resources, offer other types of memory and/or non-memory technologies and may have longer standing relationships with OEM customers than we do. Unlike us, some of our principal competitors maintain their own semiconductor fabs, which may, at times, provide them with capacity, cost and technical advantages.

Our principal competitors include Cypress Semiconductor, Integrated Silicon Solution, Micron and REC for our SRAM and LLDRAM products. NVIDIA Corporation and Intel Corporation are prospective competitors for the in-place associative computing products that we are currently developing. Other competitors are expected to enter this field as well. While some of our competitors offer a broader array of products and offer some of their products at lower prices than we do, we believe that our focus on performance leadership provides us with key competitive advantages.

We believe that our ability to compete successfully in the rapidly evolving markets for “big data” and memory products for the networking and telecommunications markets depends on a number of factors, including:

- product performance, features, quality, reliability and price;
- manufacturing flexibility, product availability and customer service throughout the lifetime of the product;

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- the timing and success of new product introductions by us, our customers and our competitors; and
- our ability to anticipate and conform to new industry standards.

We believe we compete favorably with our competitors based on these factors. However, we may not be able to compete successfully in the future with respect to any of these factors. Our failure to compete successfully in these or other areas could harm our business.

The market for networking memory products is competitive and is characterized by technological change, declining average selling prices and product obsolescence. Competition could increase in the future from existing competitors and from other companies that may enter our existing or future markets with solutions that may be less costly or provide higher performance or more desirable features than our products. This increased competition may result in price reductions, reduced profit margins and loss of market share.

In addition, we are vulnerable to advances in technology by competitors, including new SRAM architectures as well as new forms of DRAM and other new memory technologies. Because we have limited experience developing IC products other than Very Fast SRAMs and LLDRAMs, any efforts by us to introduce new products based on new technology, including the in-place associative computing products currently under development, may not be successful and, as a result, our business may suffer.

### **Intellectual Property**

Our ability to compete successfully depends, in part, upon our ability to protect our proprietary technology and information. We rely on a combination of patents, copyrights, trademarks, trade secret laws, non-disclosure and other contractual arrangements and technical measures to protect our intellectual property. We believe that it is important to maintain a large patent portfolio to protect our innovations. We currently hold 75 United States patents, including 56 memory patents and 19 associative computing patents, and have in excess of a dozen patent applications pending. We cannot assure you that any patents will be issued as a result of our pending applications. We believe that factors such as the technological and creative skills of our personnel and the success of our ongoing product development efforts are also important in maintaining our competitive position. We generally enter into confidentiality or license agreements with our employees, distributors, customers and potential customers and limit access to our proprietary information. Our intellectual property rights, if challenged, may not be upheld as valid, may not be adequate to prevent misappropriation of our technology or may not prevent the development of competitive products. Additionally, we may not be able to obtain patents or other intellectual property protection in the future. Furthermore, the laws of certain foreign countries in which our products are or may be developed, manufactured or sold, including various countries in Asia, may not protect our products or intellectual property rights to the same extent as do the laws of the United States and thus make the possibility of piracy of our technology and products more likely in these countries.

The semiconductor industry is characterized by vigorous protection and pursuit of intellectual property rights, which have resulted in significant and often protracted and expensive litigation. We or our foundry from time to time are notified of claims that we may be infringing patents or other intellectual property rights owned by third parties. We have been involved in patent infringement litigation in the past. We have been subject to other intellectual property claims in the past and we may be subject to additional claims and litigation in the future. Litigation by or against us relating to allegations of patent infringement or other intellectual property matters could result in significant expense to us and divert the efforts of our technical and management personnel, whether or not such litigation results in a determination favorable to us. In the event of an adverse result in any such litigation, we could be required to pay substantial damages, cease the manufacture, use and sale of infringing products, expend significant resources to develop non-infringing technology, discontinue the use of certain processes or obtain licenses to the infringing technology. Licenses may not be offered or the terms of any offered licenses may not be acceptable to us. If we fail to obtain a license from a third party for technology used by us, we could incur

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substantial liabilities and be required to suspend the manufacture of products or the use by our foundry of certain processes.

### **Employees**

As of March 31, 2019, we had 166 full-time employees, including 111 engineers, of which 79 are engaged in research and development and 53 have PhD or MS degrees, 17 employees in sales and marketing, ten employees in general and administrative capacities and 68 employees in manufacturing. Of these employees, 58 are based in our Sunnyvale facility, 60 are based in our Taiwan facility and 32 are based in our Israel facility. We believe that our future success will depend in large part on our ability to attract and retain highly-skilled, engineering, managerial, sales and marketing personnel. Our employees are not represented by any collective bargaining unit, and we have never experienced a work stoppage. We believe that our employee relations are good.

### **Investor Information**

You can access financial and other information in the Investor Relations section of our website at [www.gsitechnology.com](http://www.gsitechnology.com). We make available, on our website, free of charge, copies of our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after filing such material electronically or otherwise furnishing it to the SEC.

The charters of our Audit Committee, our Compensation Committee, and our Nominating and Governance Committee, our code of conduct (including code of ethics provisions that apply to our principal executive officer, principal financial officer, controller, and senior financial officers) and our corporate governance guidelines are also available at our website under "Corporate Governance." These items are also available to any stockholder who requests them by calling (408) 331-8800. The contents of our website are not incorporated by reference in this report.

The SEC maintains an Internet site that contains reports, proxy statements and other information regarding issuers that file electronically with the SEC at [www.sec.gov](http://www.sec.gov).

### **Executive Officers**

The following table sets forth certain information concerning our executive officers as of June 1, 2019:

Name	Age	Title
Lee-Lean Shu	64	President, Chief Executive Officer and Chairman
Didier Lasserre	54	Vice President, Sales
Douglas Schirle	64	Chief Financial Officer
Bor-Tay Wu	67	Vice President, Taiwan Operations
Ping Wu	62	Vice President, U.S. Operations
Robert Yau	66	Vice President, Engineering, Secretary and Director

*Lee-Lean Shu* co-founded our company in March 1995 and has served as our President and Chief Executive Officer and as a member of our Board of Directors since inception. Since October 2000, Mr. Shu has also served as Chairman of our Board. From January 1995 to March 1995, Mr. Shu was Director, SRAM Design at Sony Microelectronics Corporation, a semiconductor company and a subsidiary of Sony Corporation, and from July 1990 to January 1995, he was a design manager at Sony Microelectronics Corporation.

*Didier Lasserre* has served as our Vice President, Sales since July 2002. From November 1997 to July 2002, Mr. Lasserre served as our Director of Sales for the Western United States and Europe. From July 1996 to October

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1997, Mr. Lasserre was an account manager at Solectron Corporation, a provider of electronics manufacturing services. From June 1988 to July 1996, Mr. Lasserre was a field sales engineer at Cypress Semiconductor Corporation, a semiconductor company.

*Douglas Schirle* has served as our Chief Financial Officer since August 2000. From June 1999 to August 2000, Mr. Schirle served as our Corporate Controller. From March 1997 to June 1999, Mr. Schirle was the Corporate Controller at Pericom Semiconductor Corporation, a provider of digital and mixed signal integrated circuits. From November 1996 to February 1997, Mr. Schirle was Vice President, Finance for Paradigm Technology, a manufacturer of SRAMs, and from December 1993 to October 1996, he was the Controller for Paradigm Technology. Mr. Schirle was formerly a certified public accountant.

*Bor-Tay Wu* has served as our Vice President, Taiwan Operations since January 1997. From January 1995 to December 1996, Mr. Wu was a design manager at Atalent, an IC design company in Taiwan.

*Ping Wu* has served as our Vice President, U.S. Operations since September 2006. He served in the same capacity from February 2004 to April 2006. From April 2006 to August 2006, Mr. Wu was Vice President of Operations at QPixel Technology, a semiconductor company. From July 1999 to January 2004, Mr. Wu served as our Director of Operations. From July 1997 to June 1999, Mr. Wu served as Vice President of Operations at Scan Vision, a semiconductor manufacturer.

*Robert Yau* co-founded our company in March 1995 and has served as our Vice President, Engineering and as a member of our Board of Directors since inception. From December 1993 to February 1995, Mr. Yau was design manager for specialty memory devices at Sony Microelectronics Corporation. From 1990 to 1993, Mr. Yau was design manager at MOSEL/VITELIC, a semiconductor company.

### **Item 1A. Risk Factors**

*Our future performance is subject to a variety of risks. If any of the following risks actually occur, our business, financial condition and results of operations could suffer and the trading price of our common stock could decline. Additional risks that we currently do not know about or that we currently believe to be immaterial may also impair our business operations. You should also refer to other information contained in this report, including our consolidated financial statements and related notes.*

#### ***Unpredictable fluctuations in our operating results could cause our stock price to decline.***

Our quarterly and annual revenues, expenses and operating results have varied significantly and are likely to vary in the future. For example, in the twelve fiscal quarters ended March 31, 2019, we recorded net revenues of as much as \$14.7 million and as little as \$9.6 million and quarterly operating income of as much as \$2.2 million and, in eight quarters, operating losses, including an operating loss of \$1.8 million in the quarter ended September 30, 2017. We therefore believe that period-to-period comparisons of our operating results are not a good indication of our future performance, and you should not rely on them to predict our future performance or the future performance of our stock price. In future periods, we may not have any revenue growth, or our revenues could decline. Furthermore, if our operating expenses exceed our expectations, our financial performance could be adversely affected. Factors that may affect periodic operating results in the future include:

- changes in our customers' inventory management practices;
- unpredictability of the timing and size of customer orders, since most of our customers purchase our products on a purchase order basis rather than pursuant to a long-term contract;
- our ability to anticipate and conform to new industry standards;

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- fluctuations in availability and costs associated with materials needed to satisfy customer requirements;
- manufacturing defects, which could cause us to incur significant warranty, support and repair costs, lose potential sales, harm our relationships with customers and result in write-downs;
- changes in our product pricing policies, including those made in response to new product announcements and pricing changes of our competitors; and
- our ability to address technology issues as they arise, improve our products' functionality and expand our product offerings.

Our expenses are, to a large extent, fixed, and we expect that these expenses will increase in the future. We will not be able to adjust our spending quickly if our revenues fall short of our expectations. If this were to occur, our operating results would be harmed. If our operating results in future quarters fall below the expectations of market analysts and investors, the price of our common stock could fall.

***Our largest OEM customer accounts for a significant percentage of our net revenues. If this customer, or any of our other major customers, reduces the amount they purchase or stop purchasing our products, our operating results will suffer.***

Nokia, our largest customer, purchases our products directly from us and through contract manufacturers and distributors. Purchases by Nokia represented approximately 45%, 36% and 41% of our net revenues in fiscal 2019, 2018 and 2017, respectively. We expect that our operating results in any given period will continue to depend significantly on orders from our key OEM customers, particularly Nokia, and our future success is dependent to a large degree on the business success of this customer over which we have no control. We do not have long-term contracts with Nokia or any of our other major OEM customers, distributors or contract manufacturers that obligate them to purchase our products. We expect that future direct and indirect sales to Nokia and our other key OEM customers will continue to fluctuate significantly on a quarterly basis and that such fluctuations may substantially affect our operating results in future periods. If we fail to continue to sell to our key OEM customers, distributors or contract manufacturers in sufficient quantities, our business could be harmed.

***We have incurred significant losses in prior periods and may incur losses in the future.***

We have incurred significant losses in prior periods. We incurred net losses of \$4.5 million and \$115,000 during fiscal 2018 and 2017, respectively. There can be no assurance that our Very Fast SRAMs will continue to receive broad market acceptance, that our new product development initiatives will be successful or that we will be able to achieve sustained revenue growth or profitability.

***We depend upon the sale of our Very Fast SRAMs for most of our revenues, and a downturn in demand for these products could significantly reduce our revenues and harm our business.***

We derive most of our revenues from the sale of Very Fast SRAMs, and we expect that sales of these products will represent the substantial majority of our revenues for the foreseeable future. Our business depends in large part upon continued demand for our products in the markets we currently serve, and adoption of our products in new markets. Market adoption will be dependent upon our ability to increase customer awareness of the benefits of our products and to prove their high-performance and cost-effectiveness. We may not be able to sustain or increase our revenues from sales of our products, particularly if the networking and telecommunications markets were to experience another significant downturn in the future. Any decrease in revenues from sales of our products could harm our business more than it would if we offered a more diversified line of products.

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***If we do not successfully develop new products to respond to rapid market changes due to changing technology and evolving industry standards, particularly in the networking and telecommunications markets, our business will be harmed.***

If we fail to offer technologically advanced products and respond to technological advances and emerging standards, we may not generate sufficient revenues to offset our development costs and other expenses, which will hurt our business. The development of new or enhanced products is a complex and uncertain process that requires the accurate anticipation of technological and market trends. In particular, the networking and telecommunications markets are rapidly evolving and new standards are emerging. We are vulnerable to advances in technology by competitors, including new SRAM architectures, new forms of DRAM and the emergence of new memory technologies that could enable the development of products that feature higher performance or lower cost. We may experience development, marketing and other technological difficulties that may delay or limit our ability to respond to technological changes, evolving industry standards, competitive developments or end-user requirements. For example, because we have limited experience developing integrated circuits, or IC, products other than Very Fast SRAMs and LLDRAMs, our efforts to introduce new products may not be successful and our business may suffer. Other challenges that we face include:

- our products may become obsolete upon the introduction of alternative technologies;
- we may incur substantial costs if we need to modify our products to respond to these alternative technologies;
- we may not have sufficient resources to develop or acquire new technologies or to introduce new products capable of competing with future technologies;
- new products that we develop may not successfully integrate with our end-users' products into which they are incorporated;
- we may be unable to develop new products that incorporate emerging industry standards;
- we may be unable to develop or acquire the rights to use the intellectual property necessary to implement new technologies; and
- when introducing new or enhanced products, we may be unable to manage effectively the transition from older products.

***Our future success is substantially dependent on the successful development of new in-place associative computing products which entails significant risks.***

Since 2015, our principal strategic objective has been the development of a new category of in-place associative computing products based on patented technology that we acquired in the acquisition. We have devoted, and are continuing to devote, substantial efforts and resources to this development effort. This ongoing project involves the commercialization of new, cutting-edge technology, will require a substantial effort during fiscal 2020 and beyond and will be subject to significant risks. In addition to the typical risks associated with the development of technologically advanced products (as outlined in the previous paragraph), this project will be subject to enhanced risks of technological problems related to the development of an entirely new category of products, substantial risks of delays or unanticipated costs that may be encountered and risks associated with the establishment of entirely new markets and customer relationships. Our inability to successfully conclude this major development effort and establish a market for the products we hope to develop would have a material adverse effect on our future financial and business success, including our prospects for increased revenues. Additionally, if we are unable to meet the



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expectations of market analysts and investors with respect to this major development effort, then the price of our common stock could fall.

### ***We are subject to the highly cyclical nature of the networking and telecommunications markets.***

Our products are incorporated into routers, switches, wireless local area network infrastructure equipment, wireless base stations and network access equipment used in the highly cyclical networking and telecommunications markets. We expect that the networking and telecommunications markets will continue to be highly cyclical, characterized by periods of rapid growth and contraction. Our business and our operating results are likely to fluctuate, perhaps quite severely, as a result of this cyclical nature.

### ***The market for Very Fast SRAMs is highly competitive.***

The market for Very Fast SRAMs, which are used primarily in networking and telecommunications equipment, is characterized by price erosion, rapid technological change, cyclical market patterns and intense foreign and domestic competition. Several of our competitors offer a broad array of memory products and have greater financial, technical, marketing, distribution and other resources than we have. Some of our competitors maintain their own semiconductor fabrication facilities, which may provide them with capacity, cost and technical advantages over us. We cannot assure you that we will be able to compete successfully against any of these competitors. Our ability to compete successfully in this market depends on factors both within and outside of our control, including:

- real or perceived imbalances in supply and demand of Very Fast SRAMs;
- the rate at which OEMs incorporate our products into their systems;
- the success of our customers' products;
- our ability to develop and market new products; and
- the supply and cost of wafers.

In addition, we are vulnerable to advances in technology by competitors, including new SRAM architectures and new forms of DRAM, or the emergence of new memory technologies that could enable the development of products that feature higher performance, lower cost or lower power capabilities. Additionally, the trend toward incorporating SRAM into other chips in the networking and telecommunications markets has the potential to reduce future demand for Very Fast SRAM products. There can be no assurance that we will be able to compete successfully in the future. Our failure to compete successfully in these or other areas could harm our business.

### ***Global economic and market conditions may adversely affect our business, financial condition and results of operations.***

We sell our products to end customers both in the United States and internationally. We also rely heavily on our suppliers in Asia. We are therefore susceptible to adverse domestic and international economic and market conditions. In recent years, turmoil in global financial markets and economic conditions has impacted credit availability, consumer spending and capital expenditures, including expenditures for networking and telecommunications equipment. Weakness in global networking and telecommunications markets, particularly in Asia, has continued to adversely impact our revenues in recent quarters. Slowness in economic growth, domestically and in our key markets, uncertainty regarding macroeconomic trends, and volatility in financial markets may continue to adversely affect our business, financial condition and results of operations over coming quarters.

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***We are dependent on a number of single source suppliers, and if we fail to obtain adequate supplies, our business will be harmed and our prospects for growth will be curtailed.***

We currently purchase several key components used in the manufacture of our products from single sources and are dependent upon supply from these sources to meet our needs. If any of these suppliers cannot provide components on a timely basis, at the same price or at all, our ability to manufacture our products will be constrained and our business will suffer. Most significantly, we obtain wafers for our Very Fast SRAM and APU products from a single foundry, TSMC, and most of them are packaged at ASE. Wafers for our LLDRAM products are obtained exclusively from Powerchip. If we are unable to obtain an adequate supply of wafers from TSMC or Powerchip or find alternative sources in a timely manner, we will be unable to fulfill our customer orders and our operating results will be harmed. We do not have supply agreements with TSMC, Powerchip, ASE or any of our other independent assembly and test suppliers, and instead obtain manufacturing services and products from these suppliers on a purchase-order basis. Our suppliers, including TSMC and Powerchip, have no obligation to supply products or services to us for any specific product, in any specific quantity, at any specific price or for any specific time period. As a result, the loss or failure to perform by any of these suppliers could adversely affect our business and operating results.

Should any of our single source suppliers experience manufacturing failures or yield shortfalls, be disrupted by natural disaster or political instability, choose to prioritize capacity or inventory for other uses or reduce or eliminate deliveries to us for any other reason, we likely will not be able to enforce fulfillment of any delivery commitments and we would have to identify and qualify acceptable replacements from alternative sources of supply. In particular, if TSMC is unable to supply us with sufficient quantities of wafers to meet all of our requirements, we would have to allocate our products among our customers, which would constrain our growth and might cause some of them to seek alternative sources of supply. Since the manufacturing of wafers and other components is extremely complex, the process of qualifying new foundries and suppliers is a lengthy process and there is no assurance that we would be able to find and qualify another supplier without materially adversely affecting our business, financial condition and results of operations.

***We rely heavily on distributors and our success depends on our ability to develop and manage our indirect distribution channels.***

A significant percentage of our sales are made to distributors and to contract manufacturers who incorporate our products into end products for OEMs. For example, in fiscal 2019, 2018 and 2017, our largest distributor Avnet Logistics accounted for 31.3%, 35.3% and 25.5%, respectively, of our net revenues. Avnet Logistics and our other existing distributors may choose to devote greater resources to marketing and supporting the products of other companies. Since we sell through multiple channels and distribution networks, we may have to resolve potential conflicts between these channels. For example, these conflicts may result from the different discount levels offered by multiple channel distributors to their customers or, potentially, from our direct sales force targeting the same equipment manufacturer accounts as our indirect channel distributors. These conflicts may harm our business or reputation.

***System security risks, data protection, cyber-attacks and systems integration issues could disrupt our internal operations or the operations of our business partners, and any such disruption could harm our reputation or cause a reduction in our expected revenue, increase our expenses, negatively impact our results of operation or otherwise adversely affect our stock price.***

Security breaches, computer malware and cyber-attacks have become more prevalent and sophisticated in recent years. Experienced computer programmers and hackers may be able to penetrate our network security or the network security of our business partners, and misappropriate or compromise our confidential and proprietary information, create system disruptions or cause shutdowns. The costs to us to eliminate or alleviate cyber or other security problems, bugs, viruses, worms, malicious software programs and security vulnerabilities could be

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significant, and our efforts to address these problems may not be successful and could result in interruptions and delays that may impede our sales, manufacturing, distribution or other critical functions.

We manage and store various proprietary information and sensitive or confidential data relating to our business on the cloud. Breaches of our security measures or the accidental loss, inadvertent disclosure or unapproved dissemination of proprietary information or confidential data about us, including the potential loss or disclosure of such information or data as a result of fraud, trickery or other forms of deception, could expose us to a risk of loss or misuse of this information, result in litigation and potential liability for us, damage our reputation or otherwise harm our business. In addition, the cost and operational consequences of implementing further data protection measures could be significant.

Portions of our IT infrastructure also may experience interruptions, delays or cessations of service or produce errors in connection with systems integration or migration work that takes place from time to time. We may not be successful in implementing new systems and transitioning data, which could cause business disruptions and be more expensive, time consuming, disruptive and resource-intensive than originally anticipated. Such disruptions could adversely impact our ability to fulfill orders and interrupt other processes and could adversely affect our financial results, stock price and reputation.

***We may be unable to accurately predict future sales through our distributors, which could harm our ability to efficiently manage our resources to match market demand.***

Our financial results, quarterly product sales, trends and comparisons are affected by fluctuations in the buying patterns of the OEMs that purchase our products from our distributors. While we attempt to assist our distributors in maintaining targeted stocking levels of our products, we may not consistently be accurate or successful. This process involves the exercise of judgment and use of assumptions as to future uncertainties, including end user demand. Inventory levels of our products held by our distributors may exceed or fall below the levels we consider desirable on a going-forward basis. This could result in distributors returning unsold inventory to us, or in us not having sufficient inventory to meet the demand for our products. If we are not able to accurately predict sales through our distributors or effectively manage our relationships with our distributors, our business and financial results will suffer.

***A small number of customers generally account for a significant portion of our accounts receivable in any period, and if any one of them fails to pay us, our financial position and operating results will suffer.***

At March 31, 2019, three customers accounted for 44%, 22% and 17% of our accounts receivable, respectively. If any of these customers do not pay us, our financial position and operating results will be harmed. Generally, we do not require collateral from our customers.

***Because we outsource our wafer manufacturing and independent wafer foundry capacity is limited, we may be required to enter into costly long-term supply arrangements to secure foundry capacity.***

We do not have long-term supply agreements with TSMC or Powerchip, but instead obtain our wafers on a purchase order basis. In order to secure future wafer supply from TSMC or Powerchip or from other independent foundries, we may be required to enter into various arrangements with them, which could include:

- contracts that commit us to purchase specified quantities of wafers over extended periods;
- investments in and joint ventures with the foundries; or
- non-refundable deposits with or prepayments or loans to foundries in exchange for capacity commitments.

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We may not be able to make any of these arrangements in a timely fashion or at all, and these arrangements, if any, may not be on terms favorable to us. Moreover, even if we are able to secure independent foundry capacity, we may be obligated to use all of that capacity or incur penalties. These penalties may be expensive and could harm our financial results.

***The average selling prices of our products are expected to decline, and if we are unable to offset these declines, our operating results will suffer.***

Historically, the average unit selling prices of our products have declined substantially over the lives of the products, and we expect this trend to continue. A reduction in overall average selling prices of our products could result in reduced revenues and lower gross margins. Our ability to increase our net revenues and maintain our gross margins despite a decline in the average selling prices of our products will depend on a variety of factors, including our ability to introduce lower cost versions of our existing products, increase unit sales volumes of these products, and introduce new products with higher prices and greater margins. If we fail to accomplish any of these objectives, our business will suffer. To reduce our costs, we may be required to implement design changes that lower our manufacturing costs, negotiate reduced purchase prices from our independent foundries and our independent assembly and test vendors, and successfully manage our manufacturing and subcontractor relationships. Because we do not operate our own wafer foundry or assembly facilities, we may not be able to reduce our costs as rapidly as companies that operate their own foundries or facilities.

***Claims that we infringe third party intellectual property rights could seriously harm our business and require us to incur significant costs.***

In recent years, there has been significant litigation in the semiconductor industry involving patents and other intellectual property rights. We have recently been involved in protracted patent infringement litigation, and we could become subject to additional claims or litigation in the future as a result of allegations that we infringe others' intellectual property rights or that our use of intellectual property otherwise violates the law. Claims that our products infringe the proprietary rights of others would force us to defend ourselves and possibly our customers, distributors or manufacturers against the alleged infringement. Any such litigation regarding intellectual property could result in substantial costs and diversion of resources and could have a material adverse effect on our business, financial condition and results of operations. Similarly, changing our products or processes to avoid infringing the rights of others may be costly or impractical. If any claims received in the future were to be upheld, the consequences to us could require us to:

- stop selling our products that incorporate the challenged intellectual property;
- obtain a license to sell or use the relevant technology, which license may not be available on reasonable terms or at all;
- pay damages; or
- redesign those products that use the disputed technology.

Although patent disputes in the semiconductor industry have often been settled through cross-licensing arrangements, we may not be able in any or every instance to settle an alleged patent infringement claim through a cross-licensing arrangement in part because we have a more limited patent portfolio than many of our competitors. If a successful claim is made against us or any of our customers and a license is not made available to us on commercially reasonable terms or we are required to pay substantial damages or awards, our business, financial condition and results of operations would be materially adversely affected.

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***Our acquisition of companies or technologies could prove difficult to integrate, disrupt our business, dilute stockholder value and adversely affect our operating results.***

In November 2015, we acquired all of the outstanding capital stock of privately held MikaMonu Group Ltd., a development-stage, Israel-based company that specializes in in-place associative computing for markets including big data, computer vision and cyber security. We also acquired substantially all of the assets related to the SRAM memory device product line of Sony Corporation in 2009. We intend to supplement our internal development activities by seeking opportunities to make additional acquisitions or investments in companies, assets or technologies that we believe are complementary or strategic. Other than the MikaMonu and Sony acquisitions, we have not made any such acquisitions or investments, and therefore our experience as an organization in making such acquisitions and investments is limited. In connection with the MikaMonu acquisition, we are subject to risks related to potential problems, delays or unanticipated costs that may be encountered in the development of products based on the MikaMonu technology and the establishment of new markets and customer relationships for the potential new products. In addition, in connection with any future acquisitions or investments we may make, we face numerous other risks, including:

- difficulties in integrating operations, technologies, products and personnel;
- diversion of financial and managerial resources from existing operations;
- risk of overpaying for or misjudging the strategic fit of an acquired company, asset or technology;
- problems or liabilities stemming from defects of an acquired product or intellectual property litigation that may result from offering the acquired product in our markets;
- challenges in retaining key employees to maximize the value of the acquisition or investment;
- inability to generate sufficient return on investment;
- incurrence of significant one-time write-offs; and
- delays in customer purchases due to uncertainty.

If we proceed with additional acquisitions or investments, we may be required to use a considerable amount of our cash, or to finance the transaction through debt or equity securities offerings, which may decrease our financial liquidity or dilute our stockholders and affect the market price of our stock. As a result, if we fail to properly evaluate and execute acquisitions or investments, our business and prospects may be harmed.

***We are substantially dependent on the continued services and performance of our senior management and other key personnel.***

Our future success is substantially dependent on the continued services and continuing contributions of our senior management who must work together effectively in order to design our products, expand our business, increase our revenues and improve our operating results. Members of our senior management team have long-standing and important relationships with our key customers and suppliers. The loss of services of Lee-Lean Shu, our President and Chief Executive Officer, Robert Yau, our Vice President of Engineering, Dr. Avidan Akerib, our Vice President of Associative Computing, any other executive officer or other key employee could significantly delay or prevent the achievement of our development and strategic objectives. We do not have employment contracts with, nor maintain key person insurance on, any of our executive officers or other key employees.

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***If we are unable to recruit or retain qualified personnel, our business and product development efforts could be harmed.***

We must continue to identify, recruit, hire, train, retain and motivate highly skilled technical, managerial, sales and marketing and administrative personnel. Competition for these individuals is intense, and we may not be able to successfully recruit, assimilate or retain sufficiently qualified personnel. We may encounter difficulties in recruiting and retaining a sufficient number of qualified engineers, which could harm our ability to develop new products and adversely impact our relationships with existing and future end-users at a critical stage of development. The failure to recruit and retain necessary technical, managerial, sales, marketing and administrative personnel could harm our business and our ability to obtain new OEM customers and develop new products.

***If we are unable to offset increased wafer fabrication costs by increasing the average selling prices of our products, our gross margins will suffer.***

If there is a significant upturn in the networking and telecommunications markets that results in increased demand for our products and competing products, the available supply of wafers may be limited. As a result, we could be required to obtain additional manufacturing capacity in order to meet increased demand. Securing additional manufacturing capacity may cause our wafer fabrication costs to increase. If we are unable to offset these increased costs by increasing the average selling prices of our products, our gross margins will decline.

***Our business will suffer if we are unable to protect our intellectual property.***

Our success and ability to compete depends in large part upon protecting our proprietary technology. We rely on a combination of patent, trade secret, copyright and trademark laws and non-disclosure and other contractual agreements to protect our proprietary rights. These agreements and measures may not be sufficient to protect our technology from third-party infringement. Monitoring unauthorized use of our intellectual property is difficult and we cannot be certain that the steps we have taken will prevent unauthorized use of our technology, particularly in foreign countries where the laws may not protect our proprietary rights as fully as in the United States. Our attempts to enforce our intellectual property rights could be time consuming and costly. We were recently involved in litigation to enforce our intellectual property rights and to protect our trade secrets. Additional litigation of this type may be necessary in the future. Any such litigation could result in substantial costs and diversion of resources. If competitors are able to use our technology without our approval or compensation, our ability to compete effectively could be harmed.

***We may experience difficulties in transitioning to smaller geometry process technologies and other more advanced manufacturing process technologies, which may result in reduced manufacturing yields, delays in product deliveries and increased expenses.***

In order to remain competitive, we expect to continue to transition the manufacture of our products to smaller geometry process technologies. This transition will require us to migrate to new manufacturing processes for our products and redesign certain products. The manufacture and design of our products is complex, and we may experience difficulty in transitioning to smaller geometry process technologies or new manufacturing processes. These difficulties could result in reduced manufacturing yields, delays in product deliveries and increased expenses. We are dependent on our relationships with TSMC and Powerchip to transition successfully to smaller geometry process technologies and to more advanced manufacturing processes. We cannot assure you that TSMC or Powerchip will be able to effectively manage the transition or that we will be able to maintain our relationship with them. If we or TSMC or Powerchip experience significant delays in this transition or fail to implement these transitions, our business, financial condition and results of operations could be materially and adversely affected.

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### ***Manufacturing process technologies are subject to rapid change and require significant expenditures for research and development.***

We continuously evaluate the benefits of migrating to smaller geometry process technologies in order to improve performance and reduce costs. Historically, these migrations to new manufacturing processes have resulted in significant initial design and development costs associated with pre-production mask sets for the manufacture of new products with smaller geometry process technologies. For example, in the second quarter of fiscal 2019, we incurred approximately \$1.0 million in research and development expense associated with a pre-production mask set that will not be used in production as part of the transition to our new 28 nanometer SRAM process technology for our APU product. We will incur similar expenses in the future as we continue to transition our products to smaller geometry processes. The costs inherent in the transition to new manufacturing process technologies will adversely affect our operating results and our gross margin.

### ***Our products are complex to design and manufacture and could contain defects, which could reduce revenues or result in claims against us.***

We develop complex products. Despite testing by us and our OEM customers, design or manufacturing errors may be found in existing or new products. These defects could result in a delay in recognition or loss of revenues, loss of market share or failure to achieve market acceptance. These defects may also cause us to incur significant warranty, support and repair costs, divert the attention of our engineering personnel from our product development efforts, result in a loss of market acceptance of our products and harm our relationships with our OEM customers. Our OEM customers could also seek and obtain damages from us for their losses. A product liability claim brought against us, even if unsuccessful, would likely be time consuming and costly to defend.

Defects in wafers and other components used in our products and arising from the manufacturing of these products may not be fully recoverable from TSMC or our other suppliers. For example, in the quarter ended December 31, 2005, we incurred a charge of approximately \$900,000 related to the write-off of inventory resulting from an error in the assembly process at one of our suppliers. This write-off adversely affected our operating results for fiscal 2006.

### ***Demand for our products may decrease if our OEM customers experience difficulty manufacturing, marketing or selling their products.***

Our products are used as components in our OEM customers' products, including routers, switches and other networking and telecommunications products. Accordingly, demand for our products is subject to factors affecting the ability of our OEM customers to successfully introduce and market their products, including:

- capital spending by telecommunication and network service providers and other end-users who purchase our OEM customers' products;
- the competition our OEM customers face, particularly in the networking and telecommunications industries;
- the technical, manufacturing, sales and marketing and management capabilities of our OEM customers;
- the financial and other resources of our OEM customers; and
- the inability of our OEM customers to sell their products if they infringe third-party intellectual property rights.

As a result, if OEM customers reduce their purchases of our products, our business will suffer.

***Our products have lengthy sales cycles that make it difficult to plan our expenses and forecast results.***

Our products are generally incorporated in our OEM customers' products at the design stage. However, their decisions to use our products often require significant expenditures by us without any assurance of success, and often precede volume sales, if any, by a year or more. If an OEM customer decides at the design stage not to incorporate our products into their products, we will not have another opportunity for a design win with respect to that customer's product for many months or years, if at all. Our sales cycle can take up to 24 months to complete, and because of this lengthy sales cycle, we may experience a delay between increasing expenses for research and development and our sales and marketing efforts and the generation of volume production revenues, if any, from these expenditures. Moreover, the value of any design win will largely depend on the commercial success of our OEM customers' products. There can be no assurance that we will continue to achieve design wins or that any design win will result in future revenues.

***Any significant order cancellations or order deferrals could adversely affect our operating results.***

We typically sell products pursuant to purchase orders that customers can generally cancel or defer on short notice without incurring a significant penalty. Any significant cancellations or deferrals in the future could materially and adversely affect our business, financial condition and results of operations. Cancellations or deferrals could cause us to hold excess inventory, which could reduce our profit margins, increase product obsolescence and restrict our ability to fund our operations. We generally recognize revenue upon shipment of products to a customer. If a customer refuses to accept shipped products or does not pay for these products, we could miss future revenue projections or incur significant charges against our income, which could materially and adversely affect our operating results.

***If our business grows, such growth may place a significant strain on our management and operations and, as a result, our business may suffer.***

We are endeavoring to expand our business, and any growth that we are successful in achieving could place a significant strain on our management systems, infrastructure and other resources. To manage the potential growth of our operations and resulting increases in the number of our personnel, we will need to invest the necessary capital to continue to improve our operational, financial and management controls and our reporting systems and procedures. Our controls, systems and procedures may prove to be inadequate should we experience significant growth. In addition, we may not have sufficient administrative staff to support our operations. For example, we currently have only five employees in our finance department in the United States, including our Chief Financial Officer. Furthermore, our officers have limited experience in managing large or rapidly growing businesses. If our management fails to respond effectively to changes in our business, our business may suffer.

***Our international business exposes us to additional risks.***

Products shipped to destinations outside of the United States accounted for 62.5%, 51.5% and 59.1% of our net revenues in fiscal 2019, 2018 and 2017, respectively. Moreover, a substantial portion of our products is manufactured and tested in Taiwan, and the software development for our associative computing products occurs in Israel. We intend to continue expanding our international business in the future. Conducting business outside of the United States subjects us to additional risks and challenges, including:

- heightened price sensitivity from customers in emerging markets;
- compliance with a wide variety of foreign laws and regulations and unexpected changes in these laws and regulations;



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- uncertainties regarding taxes, tariffs, quotas, export controls and license requirements, trade wars, policies that favor domestic companies over nondomestic companies, including government efforts to provide for the development and growth of local competitors, and other trade barriers;
- potential political and economic instability in, or foreign conflicts that involve or affect, the countries in which we, our customers and our suppliers are located;
- difficulties in collecting accounts receivable and longer accounts receivable payment cycles;
- difficulties and costs of staffing and managing personnel, distributors and representatives across different geographic areas and cultures, including assuring compliance with the U. S. Foreign Corrupt Practices Act and other U. S. and foreign anti-corruption laws;
- limited protection for intellectual property rights in some countries; and
- fluctuations in freight rates and transportation disruptions.

Moreover, our reporting currency is the U.S. dollar. However, a portion of our cost of revenues and our operating expenses is denominated in currencies other than the U.S. dollar, primarily the New Taiwanese dollar. As a result, appreciation or depreciation of other currencies in relation to the U.S. dollar could result in transaction gains or losses that could impact our operating results. We do not currently engage in currency hedging activities to reduce the risk of financial exposure from fluctuations in foreign exchange rates.

***The United States could withdraw from or materially modify certain international trade agreements, or change tax provisions related to the global manufacturing and sales of our products.***

A portion of our business activities are conducted in foreign countries, including Taiwan and Israel. Our business benefits from free trade agreements, and we also rely on various U.S. corporate tax provisions related to international commerce as we develop, manufacture, market and sell our products globally. Any action to withdraw from or materially modify international trade agreements, or change corporate tax policy related to international commerce, could adversely affect our business, financial condition and results of operations.

***Changes in Taiwan's political, social and economic environment may affect our business performance.***

Because much of the manufacturing and testing of our products is conducted in Taiwan, our business performance may be affected by changes in Taiwan's political, social and economic environment. For example, any political instability resulting from the relationship among the United States, Taiwan and the People's Republic of China could damage our business. Moreover, the role of the Taiwanese government in the Taiwanese economy is significant. Taiwanese policies toward economic liberalization, and laws and policies affecting technology companies, foreign investment, currency exchange rates, taxes and other matters could change, resulting in greater restrictions on our ability and our suppliers' ability to do business and operate facilities in Taiwan. If any of these changes were to occur, our business could be harmed and our stock price could decline.

***TSMC and Powerchip, as well as our other independent suppliers and many of our OEM customers, have operations in the Pacific Rim, an area subject to significant earthquake risk and adverse consequences related to the potential outbreak of contagious diseases such as the H1N1 Flu.***

The foundries that manufacture our Fast SRAM and LLDRAM products, TSMC and Powerchip, and all of the principal independent suppliers that assemble and test our products are located in Taiwan. Many of our customers are also located in the Pacific Rim. The risk of an earthquake in these Pacific Rim locations is significant. The occurrence of an earthquake or other natural disaster near the fabrication facilities of TSMC or our other independent suppliers could result in damage, power outages and other disruptions that impair their production and

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assembly capacity. Any disruption resulting from such events could cause significant delays in the production or shipment of our products until we are able to shift our manufacturing, assembling, packaging or production testing from the affected contractor to another third-party vendor. In such an event, we may not be able to obtain alternate foundry capacity on favorable terms, or at all.

If there were to be another outbreak of a contagious disease, such as SARS or the H1N1 Flu, that significantly affected the Asia-Pacific region, the operations of our key suppliers could be disrupted. In addition, our business could be harmed if such an outbreak resulted in travel being restricted, or if it adversely affected the operations of our suppliers or our OEM customers or the demand for our products or our OEM customers' products.

***We may need to raise additional capital in the future, which may not be available on favorable terms or at all, and which may cause dilution to existing stockholders.***

We may need to seek additional funding in the future. We do not know if we will be able to obtain additional financing on favorable terms, if at all. If we cannot raise funds on acceptable terms, if and when needed, we may not be able to develop or enhance our products, take advantage of future opportunities or respond to competitive pressures or unanticipated requirements, and we may be required to reduce operating costs, which could seriously harm our business. In addition, if we issue equity securities, our stockholders may experience dilution or the new equity securities may have rights, preferences or privileges senior to those of our common stock.

***Some of our products are incorporated into advanced military electronics, and changes in international geopolitical circumstances and domestic budget considerations may hurt our business.***

Some of our products are incorporated into advanced military electronics such as radar and guidance systems. Military expenditures and appropriations for such purchases rose significantly in recent years. However, if current U.S. military operations around the world are scaled back, demand for our products for use in military applications may decrease, and our operating results could suffer. Domestic budget considerations may also adversely affect our operating results. For example, if governmental appropriations for military purchases of electronic devices that include our products are reduced, our revenues will likely decline.

***Our operations involve the use of hazardous and toxic materials, and we must comply with environmental laws and regulations, which can be expensive, and may affect our business and operating results.***

We are subject to federal, state and local regulations relating to the use, handling, storage, disposal and human exposure to hazardous and toxic materials. If we were to violate or become liable under environmental laws in the future as a result of our inability to obtain permits, human error, accident, equipment failure or other causes, we could be subject to fines, costs, or civil or criminal sanctions, face property damage or personal injury claims or be required to incur substantial investigation or remediation costs, which could be material, or experience disruptions in our operations, any of which could have a material adverse effect on our business. In addition, environmental laws could become more stringent over time imposing greater compliance costs and increasing risks and penalties associated with violations, which could harm our business.

We face increasing complexity in our product design as we adjust to new and future requirements relating to the material composition of our products, including the restrictions on lead and other hazardous substances that apply to specified electronic products put on the market in the European Union, China and California. Other countries, including at the federal and state levels in the United States, are also considering similar laws and regulations. Certain electronic products that we maintain in inventory may be rendered obsolete if they are not in compliance with such laws and regulations, which could negatively impact our ability to generate revenue from those products. Although we cannot predict the ultimate impact of any such new laws and regulations, they will likely result in additional costs, or in the worst case decreased revenue, and could even require that we redesign or change how we manufacture our products. Such redesigns result in additional costs and possible delayed or lost revenue.

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***The trading price of our common stock is subject to fluctuation and is likely to be volatile.***

The trading price of our common stock may fluctuate significantly in response to a number of factors, some of which are beyond our control, including:

- actual or anticipated declines in operating results;
- changes in financial estimates or recommendations by securities analysts;
- the institution of legal proceedings against us or significant developments in such proceedings;
- announcements by us or our competitors of financial results, new products, significant technological innovations, contracts, acquisitions, strategic relationships, joint ventures, capital commitments or other events;
- changes in industry estimates of demand for Very Fast SRAM products;
- the gain or loss of significant orders or customers;
- recruitment or departure of key personnel; and
- market conditions in our industry, the industries of our customers and the economy as a whole.

In recent years the stock market in general, and the market for technology stocks in particular, have experienced extreme price fluctuations, which have often been unrelated to the operating performance of affected companies. The market price of our common stock might experience significant fluctuations in the future, including fluctuations unrelated to our performance. These fluctuations could materially adversely affect our business relationships, our ability to obtain future financing on favorable terms or otherwise harm our business. In addition, in the past, securities class action litigation has often been brought against a company following periods of volatility in the market price of its securities. This risk is especially acute for us because the extreme volatility of market prices of technology companies has resulted in a larger number of securities class action claims against them. Due to the potential volatility of our stock price, we may in the future be the target of similar litigation. Securities litigation could result in substantial costs and divert management's attention and resources. This could harm our business and cause the value of our stock to decline.

***Use of a portion of our cash reserves to repurchase shares of our common stock presents potential risks and disadvantages to us and our continuing stockholders.***

From November 2008 through March 2019 we repurchased and retired an aggregate of 12,004,779 shares of our common stock at a total cost of \$60.7 million, including 3,846,153 shares repurchased at a total cost of \$25 million pursuant to a modified "Dutch auction" self-tender offer that we completed in August 2014 and additional shares repurchased in the open market pursuant to our stock repurchase program. At March 31, 2019, we had outstanding authorization from our Board of Directors to purchase up to an additional \$4.3 million of our common stock from time to time under our repurchase program. Although our Board has determined that these repurchases are in the best interests of our stockholders, they expose us to certain risks including:

- the risks resulting from a reduction in the size of our "public float," which is the number of shares of our common stock that are owned by non-affiliated stockholders and available for trading in the securities markets, which may reduce the volume of trading in our shares and result in reduced liquidity and, potentially, lower trading prices;

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- the risk that our stock price could decline and that we would be able to repurchase shares of our common stock in the future at a lower price per share than the prices we have paid in our tender offer and repurchase program; and
- the risk that the use of a portion of our cash reserves for this purpose has reduced, or may reduce, the amount of cash that would otherwise be available to pursue potential cash acquisitions or other strategic business opportunities.

### ***Our executive officers, directors and entities affiliated with them hold a substantial percentage of our common stock.***

As of May 31, 2019, our executive officers, directors and entities affiliated with them beneficially owned approximately 35% of our outstanding common stock. As a result, these stockholders will be able to exercise substantial influence over, and may be able to effectively control, matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions, which could have the effect of delaying or preventing a third party from acquiring control over or merging with us.

### ***The provisions of our charter documents might inhibit potential acquisition bids that a stockholder might believe are desirable, and the market price of our common stock could be lower as a result.***

Our Board of Directors has the authority to issue up to 5,000,000 shares of preferred stock. Our Board of Directors can fix the price, rights, preferences, privileges and restrictions of the preferred stock without any further vote or action by our stockholders. The issuance of shares of preferred stock might delay or prevent a change in control transaction. As a result, the market price of our common stock and the voting and other rights of our stockholders might be adversely affected. The issuance of preferred stock might result in the loss of voting control to other stockholders. We have no current plans to issue any shares of preferred stock. Our charter documents also contain other provisions, which might discourage, delay or prevent a merger or acquisition, including:

- our stockholders have no right to remove directors without cause;
- our stockholders have no right to act by written consent;
- our stockholders have no right to call a special meeting of stockholders; and
- our stockholders must comply with advance notice requirements to nominate directors or submit proposals for consideration at stockholder meetings.

These provisions could also have the effect of discouraging others from making tender offers for our common stock. As a result, these provisions might prevent the market price of our common stock from increasing substantially in response to actual or rumored takeover attempts. These provisions might also prevent changes in our management.

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

None.

### **Item 2. *Properties***

Our executive offices, our principal administration, marketing and sales operations and a portion of our research and development operations are located in a 44,277 square foot facility in Sunnyvale, California, which we purchased in fiscal 2010. In addition, we occupy approximately 25,250 square feet in a facility located in Hsin Chu, Taiwan under a lease expiring in August 2020. This facility supports our manufacturing activities. We believe that both our Sunnyvale and Taiwan facilities are adequate for our needs for the foreseeable future. We also lease space

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in the United States in the states of Georgia and Texas and in Israel. The aggregate annual gross rent for our leased facilities was approximately \$566,000 in fiscal 2019.

**Item 3. Legal Proceedings**

None.

**Item 4. Mine Safety Disclosures**

Not applicable.

**PART II**

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

**Market Information, Holders of Common Stock and Dividends**

Our common stock is traded on the Nasdaq Global Market under the symbol "GSIT".

On May 31, 2019, there were approximately 24 holders of record of our common stock. Because many of such shares are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of beneficial holders of our common stock represented by these record holders.

We have never declared or paid cash dividends on our common stock, and we do not anticipate declaring or paying any cash dividends in the foreseeable future.

**Issuer Purchases of Equity Securities**

Our Board of Directors has authorized us to repurchase, at management's discretion, shares of our common stock. Under the repurchase program, we may repurchase shares from time to time on the open market or in private transactions. The specific timing and amount of the repurchases will be dependent on market conditions, securities law limitations and other factors. The repurchase program may be suspended or terminated at any time without prior notice. Below is a summary of repurchases of our common stock made during the quarter ended March 31, 2019, all of which were made under the repurchase program.

<u>Period</u>	<u>Shares Repurchased</u>	<u>Average Price per Share</u>	<u>Value of Shares Repurchased Under the Program</u>
Beginning approximate dollar value available to be repurchased as of December 31, 2018			\$ 4,261,875
January 1 to January 31, 2019	201	\$ 5.02	\$ 4,260,865
February 1 to February 28, 2019	—	\$ —	\$ 4,260,865
March 1 to March 31, 2019	—	\$ —	\$ 4,260,865
Total shares repurchased	<u>201</u>		
Ending approximate dollar value that may be repurchased as of March 31, 2019			<u>\$ 4,260,865</u>

**Item 6. Selected Financial Data**

You should read the following selected consolidated financial data in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements and the related notes included elsewhere in this report. The selected consolidated statement of operations data set forth below for the fiscal years ended March 31, 2019, 2018 and 2017 and the selected consolidated balance sheet data as of March 31, 2019 and 2018 are derived from, and are qualified by reference to, our audited consolidated financial statements included elsewhere in this report. The selected consolidated statement of operations data set forth below for the fiscal years ended March 31, 2016 and 2015 and the selected consolidated balance sheet data as of March 31, 2017, 2016 and 2015 are derived from audited consolidated financial statements not included in this report.

	Fiscal Year Ended March 31,				
	2019	2018	2017	2016	2015
	(In thousands, except per share amounts)				
<b>Consolidated Statement of Operations Data:</b>					
Net revenues	\$ 51,486	\$ 42,643	\$ 48,180	\$ 52,736	\$ 53,498
Cost of revenues	19,858	20,217	21,764	25,999	28,375
Gross profit	<u>31,628</u>	<u>22,426</u>	<u>26,416</u>	<u>26,737</u>	<u>25,123</u>
<b>Operating expenses:</b>					
Research and development	21,355	16,998	15,803	12,095	11,917
Selling, general and administrative	10,455	9,899	11,140	17,663	19,247
Total operating expenses	<u>31,810</u>	<u>26,897</u>	<u>26,943</u>	<u>29,758</u>	<u>31,164</u>
Loss from operations	(182)	(4,471)	(527)	(3,021)	(6,041)
Interest and other income	450	409	478	210	388
Income (loss) before income taxes	268	(4,062)	(49)	(2,811)	(5,653)
Provision (benefit) for income taxes	105	453	66	(641)	(675)
Net income (loss)	<u>\$ 163</u>	<u>\$ (4,515)</u>	<u>\$ (115)</u>	<u>\$ (2,170)</u>	<u>\$ (4,978)</u>
Basic and diluted net income (loss) per share available to common stockholders:					
Basic	<u>\$ 0.01</u>	<u>\$ (0.21)</u>	<u>\$ (0.01)</u>	<u>\$ (0.10)</u>	<u>\$ (0.20)</u>
Diluted	<u>\$ 0.01</u>	<u>\$ (0.21)</u>	<u>\$ (0.01)</u>	<u>\$ (0.10)</u>	<u>\$ (0.20)</u>
Weighted average shares used in per share calculations:					
Basic	21,889	21,085	20,652	22,593	25,029
Diluted	<u>23,349</u>	<u>21,085</u>	<u>20,652</u>	<u>22,593</u>	<u>25,029</u>
<b>March 31,</b>					
(In thousands)					
<b>Consolidated Balance Sheet Data:</b>					
Cash, cash equivalents and short-term investments	\$ 61,841	\$ 58,365	\$ 49,935	\$ 55,112	\$ 58,977
Working capital	68,632	63,867	57,798	62,720	66,230
Total assets	106,223	99,540	102,595	106,530	108,889
Total stockholders' equity	93,155	86,815	86,444	89,869	96,396

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

*The following discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ substantially from those anticipated in these forward-looking statements as a result of many factors, including those set forth under “Risk Factors” and elsewhere in this report. The following discussion*

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*should be read together with our consolidated financial statements and the related notes included elsewhere in this report.*

### **Overview**

We are a fabless semiconductor company that designs, develops and markets static random access memories, or SRAMs, that operate at speeds of less than 10 nanoseconds, which we refer to as Very Fast SRAMs, primarily for the networking and telecommunications markets. We are subject to the highly cyclical nature of the semiconductor industry, which has experienced significant fluctuations, often in connection with fluctuations in demand for the products in which semiconductor devices are used. Our revenues have been substantially impacted by significant fluctuations in sales to our largest customer, Nokia. We expect that future direct and indirect sales to Nokia will continue to fluctuate significantly on a quarterly basis. The networking and telecommunications market has accounted for a significant portion of our net revenues in the past and has declined during the past several years and is expected to continue to decline. However, with no debt, substantial liquidity and a history of positive cash flows from operations, we believe we are in a better financial position than many other companies of our size.

*Revenues.* Our revenues are derived primarily from sales of our Very Fast SRAM products. Sales to networking and telecommunications OEMs accounted for 55% to 66% of our net revenues during our last three fiscal years. We also sell our products to OEMs that manufacture products for military and aerospace applications such as radar and guidance systems, missiles and satellites, for professional audio applications such as sound mixing systems, for test and measurement applications such as high-speed testers, for automotive applications such as smart cruise control and voice recognition systems, and for medical applications such as ultrasound and CAT scan equipment.

As is typical in the semiconductor industry, the selling prices of our products generally decline over the life of the product. Our ability to increase net revenues, therefore, is dependent upon our ability to increase unit sales volumes of existing products and to introduce and sell new products with higher average selling prices in quantities sufficient to compensate for the anticipated declines in selling prices of our more mature products. Although we expect the average selling prices of individual products to decline over time, we believe that, over the next several quarters, our overall average selling prices will increase due to a continuing shift in product mix to a higher percentage of higher price, higher density products. Our ability to increase unit sales volumes is dependent primarily upon increases in customer demand but, particularly in periods of increasing demand, can also be affected by our ability to increase production through the availability of increased wafer fabrication capacity from TSMC and Powerchip, our wafer suppliers, and our ability to increase the number of good integrated circuit die produced from each wafer through die size reductions and yield enhancement activities.

We may experience fluctuations in quarterly net revenues for a number of reasons. Historically, orders on hand at the beginning of each quarter are insufficient to meet our revenue objectives for that quarter and are generally cancelable up to 30 days prior to scheduled delivery. Accordingly, we depend on obtaining and shipping orders in the same quarter to achieve our revenue objectives. In addition, the timing of product releases, purchase orders and product availability could result in significant product shipments at the end of a quarter. Failure to ship these products by the end of the quarter may adversely affect our operating results. Furthermore, our customers may delay scheduled delivery dates and/or cancel orders within specified timeframes without significant penalty.

We sell our products through our direct sales force, international and domestic sales representatives and distributors. Sales to consignment warehouses, who purchase products from us for use by contract manufacturers, are recorded upon delivery to the contract manufacturer. Prior to the implementation of ASC 606, sales to certain distributors were previously made under agreements allowing for returns or credits under certain circumstances. We therefore deferred recognition of revenue on sales to those distributors under these terms until products were resold by the distributor. During fiscal 2018, we revised our distribution agreements to these distributors to eliminate ship from stock and debits and price protection. Under these revised distribution agreements, selling prices were fixed and determinable on the date of shipment and revenue was recognized upon shipment.

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Historically, a small number of OEM customers have accounted for a substantial portion of our net revenues, and we expect that significant customer concentration will continue for the foreseeable future. Many of our OEMs use contract manufacturers to manufacture their equipment. Accordingly, a significant percentage of our net revenues is derived from sales to these contract manufacturers and to consignment warehouses. In addition, a significant portion of our sales are made to foreign and domestic distributors who resell our products to OEMs, as well as their contract manufacturers. Direct sales to contract manufacturers and consignment warehouses accounted for 41.3%, 34.9% and 39.0% of our net revenues for fiscal 2019, 2018 and 2017, respectively. Sales to foreign and domestic distributors accounted for 56.0%, 62.5% and 57.5% of our net revenues for fiscal 2019, 2018 and 2017, respectively. The following direct customers accounted for 10% or more of our net revenues in one or more of the following periods:

	Fiscal Year Ended		
	March 31,		
	2019	2018	2017
Contract manufacturers and consignment warehouses:			
Flextronics Technology	21.8 %	14.0 %	10.4 %
Sanmina	17.7	16.0	20.4
Distributors:			
Avnet Logistics	31.3	35.3	25.5
Nexcomm	14.8	16.1	19.7

Nokia was our largest customer in fiscal 2019, 2018 and 2017. Nokia purchases products directly from us and through contract manufacturers and distributors. Based on information provided to us by its contract manufacturers and our distributors, purchases by Nokia represented approximately 45%, 36% and 41% of our net revenues in fiscal 2019, 2018 and 2017, respectively. Our revenues have been substantially impacted by significant fluctuations in sales to Nokia, and we expect that future direct and indirect sales to Nokia will continue to fluctuate substantially on a quarterly basis and that such fluctuations may significantly affect our operating results in future periods. To our knowledge, none of our other OEM customers accounted for more than 10% of our net revenues in fiscal 2019, 2018 or 2017.

*Cost of Revenues.* Our cost of revenues consists primarily of wafer fabrication costs, wafer sort, assembly, test and bum-in expenses, the amortized cost of production mask sets, stock-based compensation and the cost of materials and overhead from operations. All of our wafer manufacturing and assembly operations, and a significant portion of our wafer sort testing operations, are outsourced. Accordingly, most of our cost of revenues consists of payments to TSMC, Powerchip and independent assembly and test houses. Because we do not have long-term, fixed-price supply contracts, our wafer fabrication and other outsourced manufacturing costs are subject to the cyclical fluctuations in demand for semiconductors. Cost of revenues also includes expenses related to supply chain management, quality assurance, and final product testing and documentation control activities conducted at our headquarters in Sunnyvale, California and our branch operations in Taiwan.

*Gross Profit.* Our gross profit margins vary among our products and are generally greater on our higher density products and, within a particular density, greater on our higher speed and industrial temperature products. We expect that our overall gross margins will fluctuate from period to period as a result of shifts in product mix, changes in average selling prices and our ability to control our cost of revenues, including costs associated with outsourced wafer fabrication and product assembly and testing.

*Research and Development Expenses.* Research and development expenses consist primarily of salaries and related expenses for design engineers and other technical personnel, the cost of developing prototypes, stock-based compensation and fees paid to consultants. We charge all research and development expenses to operations as incurred. We charge mask costs used in production to cost of revenues over a 12-month period. However, we charge costs related to pre-production mask sets, which are not used in production, to research and development expenses at



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the time they are incurred. These charges often arise as we transition to new process technologies and, accordingly, can cause research and development expenses to fluctuate on a quarterly basis. We believe that continued investment in research and development is critical to our long-term success, and we expect to continue to devote significant resources to product development activities. In particular, we are devoting substantial resources to the development of a new category of in-place associative computing products. Accordingly, we expect that our research and development expenses will continue to be substantial in future periods and may lead to operating losses in some periods. Such expenses as a percentage of net revenues may fluctuate from period to period.

*Selling, General and Administrative Expenses.* Selling, general and administrative expenses consist primarily of commissions paid to independent sales representatives, salaries, stock-based compensation and related expenses for personnel engaged in sales, marketing, administrative, finance and human resources activities, professional fees, costs associated with the promotion of our products and other corporate expenses. We expect that our sales and marketing expenses will increase in absolute dollars in future periods if we are able to grow and expand our sales force but that, to the extent our revenues increase in future periods, these expenses will generally decline as a percentage of net revenues. We also expect that, in support of any future growth that we are able to achieve, general and administrative expenses will generally increase in absolute dollars.

### **Acquisition**

On November 23, 2015, we acquired all of the outstanding capital stock of privately held MikaMonu Group Ltd. (“MikaMonu”), a development-stage, Israel-based company that specializes in in-place associative computing for markets including big data, computer vision and cyber security. MikaMonu, located in Tel Aviv, held 12 United States patents and a number of pending patent applications.

The acquisition was undertaken in order to gain access to the MikaMonu patents and the potential markets, and new customer base in those markets, that can be served by new products that we plan to develop using the patents obtained in the MikaMonu acquisition.

The acquisition has been accounted for as a purchase under authoritative guidance for business combinations. The purchase price of the acquisition was allocated to the intangible assets acquired, with the excess of the purchase price over the fair value of assets acquired recorded as goodwill. We perform a goodwill impairment test in February of each fiscal year.

The results of operations of MikaMonu and the estimated fair value of the assets acquired were included in our consolidated financial statements beginning November 23, 2015.

Under the terms of the acquisition agreement, we paid the former MikaMonu shareholders initial cash consideration of approximately \$4.4 million at the closing on November 23, 2015. In addition, \$484,000 was deposited in escrow to provide a fund for potential future indemnification claims by us. The majority of this escrow deposit, or \$479,000, was paid to the former MikaMonu shareholders in May 2017.

We are also required to pay the former MikaMonu shareholders future contingent consideration consisting of retention payments and “earnout” payments, as described below.

We will make cash retention payments of up to an additional \$2.5 million to the three former MikaMonu shareholders in installments over a four-year period, conditioned on the continued employment of Dr. Avidan Akerib, MikaMonu’s co-founder and chief technologist. The retention amount of \$2.5 million was deposited in escrow. Of this amount, \$1.0 million is included in prepaid expenses and other current assets on the Consolidated Balance Sheet at March 31, 2019 and \$743,000 and \$750,000 was paid to the former MikaMonu shareholders during the quarters ended December 31, 2017 and 2018, respectively.

We will also make “earnout” payments to the former MikaMonu shareholders in cash or shares of our common stock, at our discretion, during a period of up to ten years following the closing if certain product

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development milestones and revenue targets for products based on the MikaMonu technology are achieved. Earnout amounts of \$750,000 were paid in the fiscal year ended March 31, 2019 based on the achievement of certain product development milestones. Additional earnout amounts of \$2.8 million and \$4.0 million will be payable if certain revenue milestones are achieved by January 1, 2021 and January 1, 2022, respectively; and additional payments, up to a maximum of \$30.0 million, equal to 5% of net revenues from the sale of qualifying products in excess of certain thresholds, will be made quarterly through December 31, 2025.

The portion of the retention payment contingently payable to Dr. Akerib (approximately \$1.2 million) will be recorded as compensation expense over the period that his services are provided to us. The portion of the retention payment contingently payable to the other former MikaMonu shareholders (approximately \$1.3 million) plus the maximum amount of the potential earnout payments totals approximately \$38.8 million. We determined that the fair value of this contingent consideration liability was \$5.8 million at the acquisition date. The contingent consideration liability is included in other accrued expenses on the Consolidated Balance Sheet at March 31, 2018 and 2019 in the amount of \$4.4 million and \$3.7 million, respectively, and is included in accrued expenses and other liabilities at March 31, 2018 and 2019 in the amount of \$1.1 million and \$492,000, respectively.

The fair value of the contingent consideration liability was determined as of the acquisition date using unobservable inputs. These inputs include the estimated amount and timing of future revenues, the probability of success (achievement of the various contingent events) and a risk-adjusted discount rate of approximately 14.8% used to adjust the probability-weighted cash flows to their present value. Subsequent to the acquisition date, at each reporting period, the contingent consideration liability will be re-measured at then current fair value with changes recorded in the Consolidated Statement of Operations. Changes in any of the inputs may result in significant adjustments to the recorded fair value. Re-measurement of the contingent consideration liability at March 31, 2019 resulted in a reduction of the contingent consideration liability of \$325,000.

The allocation of the purchase price to acquired identifiable intangible assets and goodwill was based on their estimated fair values at the date of acquisition. The fair value allocated to patents was \$3.5 million and the residual value allocated to goodwill was \$8.0 million.

### **Results of Operations**

The following table sets forth statement of operations data as a percentage of net revenues for the periods indicated:

	Year Ended March 31,		
	2019	2018	2017
Net revenues	100.0 %	100.0 %	100.0 %
Cost of revenues	38.6	47.4	45.2
Gross profit	61.4	52.6	54.8
Operating expenses:			
Research and development	41.5	39.9	32.8
Selling, general and administrative	20.3	23.2	23.1
Total operating expenses	61.8	63.1	55.9
Loss from operations	(0.4)	(10.5)	(1.1)
Interest and other income, net	0.9	1.0	1.0
Income (loss) before income taxes	0.5	(9.5)	(0.1)
Provision for income taxes	0.2	1.1	0.1
Net income (loss)	0.3	(10.6)	(0.2)

***Fiscal Year Ended March 31, 2019 Compared to Fiscal Year Ended March 31, 2018***

***Net Revenues.*** Net revenues increased by 20.7% from \$42.6 million in fiscal 2018 to \$51.5 million in fiscal 2019. The overall average selling price of all units shipped in fiscal 2019 increased by 24.0% compared to fiscal 2018. The increase in the average selling price in fiscal 2019 was due to a change in product mix, as we sold more higher density, higher average selling price products in fiscal 2019 compared to the prior fiscal year. Units shipped declined 3.1% in fiscal 2019 compared to fiscal 2018. The networking and telecommunications markets represented 55% of shipments in fiscal 2019 and in fiscal 2018. Direct and indirect sales to Nokia, currently our largest customer, increased by \$7.8 million from \$15.3 million in fiscal 2018 to \$23.1 million fiscal 2019. Shipments of our SigmaQuad product line accounted for 63.6% of total shipments in fiscal 2019 compared to 47.4% of total shipments in fiscal 2018. The increase in SigmaQuad shipments was primarily due to the increased sales to Nokia.

***Cost of Revenues.*** Although net revenues increased in fiscal 2019 compared to fiscal 2018, cost of revenues decreased by 1.8% from \$20.2 million in fiscal 2018 to \$19.9 million in fiscal 2019. The decrease was primarily due to an increase in gross margin from 52.6% in fiscal 2018 to 61.4% in fiscal 2019 resulting from the favorable product mix. Cost of revenues included stock-based compensation expense of \$234,000 and \$259,000, respectively, in fiscal 2019 and fiscal 2018.

***Gross Profit.*** Gross profit increased by 41.0% from \$22.4 million in fiscal 2018 to \$31.6 million in fiscal 2019. Gross margin increased from 52.6% in fiscal 2018 to 61.4% in fiscal 2019. The increase in gross margin was primarily related to changes in the mix of products and customers.

***Research and Development Expenses.*** Research and development expenses increased 25.6% from \$17.0 million in fiscal 2018 to \$21.4 million in fiscal 2019. The increase was primarily due to increases of \$1.5 million in payroll related expenses, \$1.2 million in outside consultant expenses, \$986,000 in non-production mask sets and \$214,000 in depreciation expense, all related to our associative processing development activities. Research and development expenses included stock-based compensation expense of \$1.3 million and \$1.1 million, respectively, in fiscal 2019 and fiscal 2018.

***Selling, General and Administrative Expenses.*** Selling, general and administrative expenses increased 5.6% from \$9.9 million in fiscal 2018 to \$10.5 million in fiscal 2019. This increase was primarily related to an increase in payroll related expenses of \$713,000 and a lesser increase in outside sales representative commissions, partially offset by a decrease of \$712,000 in professional fees. In addition, re-measurement of the contingent consideration liability related to our acquisition of MikaMonu resulted in a reduction of the liability of \$179,000 in fiscal 2019 compared to \$308,000 in fiscal 2018, for a year over year increase in expenses of \$129,000. Selling, general and administrative expenses included stock-based compensation expense of \$722,000 and \$670,000, respectively, in fiscal 2019 and fiscal 2018.

***Interest and Other Income (Expense), Net.*** Interest and other income (expense), net increased 10.0% from \$409,000 in fiscal 2018 to \$450,000 in fiscal 2019. Interest income increased by \$250,000 due to higher interest rates received on cash and short-term and long-term investments. The foreign currency exchange loss increased from \$12,000 in fiscal 2018 to \$221,000 in fiscal 2019. The exchange loss in each period was primarily related to our Taiwan branch operations and operations in Israel.

***Provision for Income Taxes.*** The provision for income taxes was \$453,000 in fiscal 2018 compared to \$105,000 in fiscal 2019. The "Tax Cuts and Jobs Act" ("H.R. 1") resulted in an estimated tax provision of \$367,000 in the year ended March 31, 2018 related to the transition tax associated with deemed repatriation of foreign earnings. During the year ended March 31, 2019, we completed our assessment of the impact of H.R. 1 and recorded an immaterial additional liability that is included in Income Taxes Payable in the Consolidated Balance Sheet as of March 31, 2019. Because we recorded a cumulative three-year loss on a U.S. tax basis for the year ended March 31, 2019 and the realization of our deferred tax assets is questionable, we recorded a tax provision reflecting a valuation

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allowance of \$6.7 million in net deferred tax assets in fiscal 2019. Reductions in uncertain tax benefits due to lapses in the statute of limitations were not significant in the years ended March 31, 2019 and 2018.

*Net Income (Loss).* Net loss was \$4.5 million in fiscal 2018 compared to net income of \$163,000 in fiscal 2019. This improvement was primarily due to the changes in net revenues, gross profit and operating expenses discussed above.

### ***Fiscal Year Ended March 31, 2018 Compared to Fiscal Year Ended March 31, 2017***

*Net Revenues.* Net revenues decreased by 11.5% from \$48.2 million in fiscal 2017 to \$42.6 million in fiscal 2018. The decrease in net revenues was primarily the result of a 19.9% decline in total units shipped in fiscal 2018 compared to fiscal 2017 that was partially offset by an increase of 4.4% in the overall average selling price of all units shipped in fiscal 2018 compared to fiscal 2017. The increase in the average selling price was due to a change in product mix, as we sold more higher density, higher average selling price product in fiscal 2018. The reduction in net revenues reflected the continuing weakness in the global networking and telecommunications markets and, in particular, continued weakness in Asia. The networking and telecommunications markets represented 55% of shipments in fiscal 2018 compared to 66% in fiscal 2017. The decline in networking and telecommunications shipments was partially offset by an increase in shipments to our military market that represented 25% of shipments in fiscal 2018 compared to 17% of shipments in fiscal 2017. During fiscal 2018 we revised our distribution agreements to eliminate ship from stock and debits and price protection. Under these revised distribution agreements, we recognized additional revenue of \$2.0 million in fiscal 2018 on the dates that the distribution agreements were revised for product held by our distributors as the price became fixed and determinable. Direct and indirect sales to Nokia, currently our largest customer, decreased by \$4.5 million from \$19.8 million in fiscal 2017 to \$15.3 million fiscal 2018, reflecting inventory correction by Nokia during fiscal 2018 to reduce inventory levels to align them with production requirements. In addition, direct and indirect sales to Cisco Systems, historically our largest customer, decreased by \$2.0 million from \$4.3 million in fiscal 2017 to \$2.3 million in fiscal 2018 due to softness in the market for its switches and routers that incorporate our products.

*Cost of Revenues.* Cost of revenues decreased by 7.1% from \$21.8 million in fiscal 2017 to \$20.2 million in fiscal 2018. Cost of revenues decreased primarily due to the decrease in net revenues discussed above, partially offset by an increase in the provision for excess and obsolete inventories that increased from \$588,000 in fiscal 2017 to \$1.6 million in fiscal 2018. Cost of revenues included stock-based compensation expense of \$259,000 and \$282,000, respectively, in fiscal 2018 and fiscal 2017.

*Gross Profit.* Gross profit decreased by 15.1% from \$26.4 million in fiscal 2017 to \$22.4 million in fiscal 2018. Gross margin decreased from 54.8% in fiscal 2017 to 52.6% in fiscal 2018. The decline in gross margin was primarily related to changes in the mix of products and customers and the increased provision for excess and obsolete inventory discussed above.

*Research and Development Expenses.* Research and development expenses increased 7.6% from \$15.8 million in fiscal 2017 to \$17.0 million in fiscal 2018. This increase was primarily due to an increase of \$1.1 million in payroll related expenses, and an increase of \$331,000 in external research and development expenses primarily related to qualification of our RadHard product, partially offset by a decrease of \$564,000 for purchased IP both primarily related to our in-place associative processor development activities. Research and development expenses included stock-based compensation expense of \$1.1 million and \$980,000, respectively, in fiscal 2018 and fiscal 2017.

*Selling, General and Administrative Expenses.* Selling, general and administrative expenses decreased 11.1% from \$11.1 million in fiscal 2017 to \$9.9 million in fiscal 2018. This decrease was primarily related to a decrease in payroll related expenses of \$550,000. In addition, re-measurement of the contingent consideration liability related to our acquisition of MikaMonu resulted in a reduction of the liability of \$308,000 in fiscal 2018 compared to an increase in the liability of \$344,000 in fiscal 2017, for a year over year reduction in expenses of

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\$652,000. Selling, general and administrative expenses included stock-based compensation expense of \$670,000 and \$615,000, respectively, in fiscal 2018 and fiscal 2017.

*Interest and Other Income (Expense), Net.* Interest and other income (expense), net decreased 14.4% from \$478,000 in fiscal 2017 to \$409,000 in fiscal 2018. Interest income increased by \$109,000 due to higher interest rates received on cash and short-term and long-term investments. A foreign currency exchange gain of \$166,000 in fiscal 2017 compared to a foreign currency exchange loss of \$12,000 in fiscal 2018. The exchange gain or loss in each period was primarily related to our Taiwan branch operations and operations in Israel.

*Provision for Income Taxes.* The provision for income taxes was \$66,000 in fiscal 2017 compared to a \$453,000 in fiscal 2018. The "Tax Cuts and Jobs Act" ("H.R. 1") resulted in an estimated tax provision of \$367,000 in the year ended March 31, 2018 related to the transition tax associated with deemed repatriation of foreign earnings. Because we recorded a cumulative three-year loss on a U.S. tax basis for the year ended March 31, 2018 and the realization of our deferred tax assets is questionable, we recorded a tax provision reflecting a valuation allowance of \$5.9 million in net deferred tax assets in fiscal 2018. Reductions in uncertain tax benefits due to lapses in the statute of limitations were \$0 and \$71,000 in the years ended March 31, 2018 and 2017, respectively.

*Net Loss.* Net loss increased from \$115,000 in fiscal 2017 to \$4.5 million in fiscal 2018. This increase was primarily due to the changes in net revenues, gross profit and operating expenses discussed above.

### **Liquidity and Capital Resources**

As of March 31, 2019, our principal sources of liquidity were cash, cash equivalents and short-term investments of \$61.8 million compared to \$58.4 million as of March 31, 2018. Cash, cash equivalents and short-term investments totaling \$32.0 million were held in foreign locations as of March 31, 2019.

Net cash provided by operating activities was \$3.0 million for fiscal 2019 compared to \$1.1 million for fiscal 2018 and \$2.1 million for fiscal 2017. The primary sources of cash in fiscal 2019 were an increase in accrued expenses and other liabilities of \$1.5 million and non-cash items including stock-based compensation of \$2.3 million, depreciation and amortization expenses of \$1.5 million and a provision for excess and obsolete inventories of \$1.2 million. Accrued expenses and other liabilities increased primarily due to increased levels of compensation related accruals in fiscal 2019 compared to the prior year. The primary uses of cash in fiscal 2019 were increases in accounts receivable of \$2.1 million and inventory of \$1.3 million. Accounts receivable increased primarily due to the timing of payments received from customers and the increased level of shipments during fourth quarter of fiscal 2019 compared to the prior year. The primary sources of cash in fiscal 2018 were a reduction in inventory of \$2.1 million, non-cash stock-based compensation expense of \$2.1 million, a provision for excess and obsolete inventory of \$1.6 million, depreciation and amortization expense of \$1.3 million and a decrease in accounts receivable of \$1.1 million. The primary uses of cash in fiscal 2018 were a net loss of \$4.5 million, a decrease in deferred revenue of \$1.7 million and a decrease in accrued expenses and other liabilities of \$1.2 million. The decrease in deferred revenue is due to revisions in our distribution agreements in fiscal 2018 that resulted in the elimination of ship from stock and debit rights and price protection rights for our distributors to eliminate any uncertainty in regards to a final selling price and to establish a selling price that is fixed and determinable at the time of shipment to the distributor and enable us to recognize revenue upon shipment to our distributors that was previously deferred. The primary sources of cash in fiscal 2017 were non-cash stock-based compensation expense of \$1.9 million, depreciation and amortization expense of \$1.5 million and a decrease in accounts receivable of \$1.1 million. The primary uses of cash in fiscal 2017 were an increase in inventories of \$2.6 million, a decrease in accounts payable of \$887,000 and a decrease in deferred revenue of \$534,000. Our inventory balance increased primarily due to assembling our LLD RAM products to support shipments in the next three to six months as we qualified a new assembly vendor.

Net cash used in investing activities was \$3.5 million in fiscal 2019 compared to net cash provided by investing activities of \$2.8 million in fiscal 2018 and \$4.8 million in fiscal 2017. Investment activities in fiscal 2019 primarily consisted of the purchase of agency bonds and certificates of deposit of \$20.3 million and the purchase of

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property and equipment of \$2.1 million, partially offset by the maturity of agency bonds and certificates of deposit of \$18.2 million and a reduction in the MikaMonu escrow deposits of \$750,000. Investment activities in fiscal 2018 consisted primarily of the maturity of certificates of deposit, state and municipal obligations and corporate notes of \$16.1 million and a reduction in the MikaMonu escrow deposits of \$1.2 million, partially offset by the purchase of investments of \$13.2 million and the purchase of property and equipment of \$1.3 million. Investment activities in fiscal 2017 consisted primarily of the maturity of corporate notes, agency bonds, state and municipal obligations and certificates of deposit of \$23.6 million, partially offset by the purchase of investments of \$18.6 million.

Cash used in financing activities in fiscal 2019 and in fiscal 2017 included the repurchase of our common stock for a total purchase price of \$103,000 and \$7.1 million, respectively. There were no repurchases of our common stock in fiscal 2018. Cash provided by financing activities in fiscal 2019, fiscal 2018 and fiscal 2017 primarily consisted of the net proceeds from the sale of common stock pursuant to our employee stock plans.

At March 31, 2019, we had total minimum lease obligations of approximately \$905,000 from April 1, 2018 through April 30, 2022, under non-cancelable operating leases for our facilities.

We believe that our existing balances of cash, cash equivalents and short-term investments, and cash flow expected to be generated from our future operations, will be sufficient to meet our cash needs for working capital and capital expenditures for at least the next 12 months, although we could be required, or could elect, to seek additional funding prior to that time. Our future capital requirements will depend on many factors, including the rate of revenue growth that we experience, the extent to which we utilize subcontractors, the levels of inventory and accounts receivable that we maintain, the timing and extent of spending to support our product development efforts and the expansion of our sales and marketing efforts. Additional capital may also be required for the consummation of any acquisition of businesses, products or technologies that we may undertake. We cannot assure you that additional equity or debt financing, if required, will be available on terms that are acceptable or at all.

[Table of Contents](#)**Contractual Obligations**

The following table describes our contractual obligations as of March 31, 2019:

	Payments due by period				Total
	Up to 1 year	1 - 3 years	3 - 5 years	More than 5 years	
Facilities leases	\$ 477,000	\$421,000	\$ 7,000	\$ —	\$ 905,000
Wafer, software and test purchase obligations	1,945,000	452,000	—	—	2,397,000
	<u>\$2,422,000</u>	<u>\$873,000</u>	<u>\$ 7,000</u>	<u>\$ —</u>	<u>\$3,302,000</u>

As of March 31, 2019, the current portion of our unrecognized tax benefits was \$0, and the long-term portion was \$622,000.

In connection with the acquisition of MikaMonu on November 23, 2015, we are required to make contingent consideration payments to the former MikaMonu shareholders conditioned upon the retention of MikaMonu's key employee and the achievement of certain product development milestones and revenue targets for products based on the MikaMonu technology. As of March 31, 2019, the accrual for potential payment of contingent consideration was \$4.2 million.

**Critical Accounting Policies and Estimates**

The preparation of our consolidated financial statements and related disclosures in conformity with accounting principles generally accepted in the United States ("GAAP") requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Significant estimates are inherent in the preparation of the consolidated financial statements and include estimates affecting revenue recognition, obsolete and excess inventory, the valuation allowance on deferred tax assets, stock-based compensation, contingent consideration and the valuation of goodwill. We believe that we consistently apply these judgments and estimates and that our financial statements and accompanying notes fairly represent our financial results for all periods presented. However, any errors in these judgments and estimates may have a material impact on our balance sheet and statement of operations. Critical accounting estimates, as defined by the Securities and Exchange Commission, are those that are most important to the portrayal of our financial condition and results of operations and require our most difficult and subjective judgments and estimates of matters that are inherently uncertain. Our critical accounting estimates include those regarding revenue recognition, the valuation of inventories, taxes, stock-based compensation, contingent consideration and the valuation of goodwill.

*Revenue Recognition.* On April 1, 2018, we adopted ASU No. 2014-09, "Revenue from Contracts with Customers (Topic 606)." This standard update outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers. We adopted using the modified retrospective method applied to all at the date of initial application (i.e., April 1, 2018). Results for reporting periods after April 1, 2018 are presented under Topic 606, while prior period amounts are not adjusted and continue to be reported in accordance with the our historic accounting under Topic 605.

We determine revenue recognition through the following steps: (1) identification of the contract with a customer; (2) identification of the performance obligations in the contract; (3) determination of the transaction price; (4) allocation of the transaction price to the performance obligations in the contract; and (5) recognition of revenue when, or as, we satisfy a performance obligation.

The adoption of ASC 606 was applied to all contracts and did not have a significant impact on our retained earnings as the timing of our revenue recognition under the new standard coincides with the way we previously

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recognized revenue. There was no impact on the opening retained earnings balance as of April 1, 2018 due to the adoption of ASC 606.

The majority of our customer contracts, which may be in the form of purchase orders, contracts or purchase agreements, contain performance obligations for delivery of agreed upon products. Delivery of all performance obligations contained within a contract with a customer typically occurs at the same time (or within the same accounting period). Transfer of control typically occurs at the time of shipment or at the time the product is pulled from consignment as that is the point at which delivery has occurred, title and the risks and rewards of ownership have passed to the customer, and we have a right to payment. Thus, we will generally recognize revenue upon shipment of the product.

Because all our performance obligations relate to contracts with a duration of less than one year, we elected to apply the optional exemption practical expedient provided in ASC 606 and, therefore, are not required to disclose the aggregate amount of the transaction price allocated to performance obligations that are unsatisfied or partially unsatisfied at the end of the reporting period.

We adjust the transaction price for variable consideration. Variable consideration is not typically significant and primarily results from stock rotation rights and quick pay discounts provided to our distributors. As a practical expedient, we recognize the incremental costs of obtaining a contract, specifically commission expenses that have a period of benefit of less than twelve months, as an expense when incurred. Additionally, we have adopted an accounting policy to recognize shipping costs that occur after control transfers to the customer as a fulfillment activity.

Our contracts with customers do not typically include extended payment terms. Payment terms vary by contract type and type of customer and generally range from 30 to 60 days from shipment. Additionally, we have a right to payment upon shipment.

We record revenue net of sales tax, value added tax, excise tax and other taxes collected concurrent with product sales. The impact of such taxes on products sales is immaterial. We have also elected to recognize the cost for freight and shipping when control over the products sold passes to customers and revenue is recognized.

During fiscal 2018, we revised our distribution agreements to certain distributors to eliminate ship from stock and debits and price protection. Under these revised distribution agreements, selling prices are now fixed and determinable on the date of shipment and revenue is recognized upon shipment. Under these revised distribution agreements, we recognized additional revenue of \$2.0 million in fiscal 2018 on the dates that the distribution agreements were revised for product held by our distributors as the price became fixed and determinable.

*Valuation of Inventories.* Inventories are stated at the lower of cost or market value, cost being determined on a weighted average basis. Our inventory write-down allowance is established when conditions indicate that the selling price of our products could be less than cost due to physical deterioration, obsolescence, changes in price levels, or other causes. We consider the need to establish the allowance for excess inventory generally based on inventory levels in excess of 12 months of forecasted demand for each specific product. Inventory consists of finished goods at our premises or consignment warehouses, work in progress at our premises or our contract manufacturers and finished goods at distributors that have stock rotation rights and takes into account any un-cancellable purchase commitments. Historically, it has been difficult to forecast customer demand especially at the part-number level. Many of the orders we receive from our customers and distributors request delivery of product on relatively short notice and with lead times less than our manufacturing cycle time. In order to provide competitive delivery times to our customers, we build and stock a certain amount of inventory in anticipation of customer demand that may not materialize. Moreover, as is common in the semiconductor industry, we may allow customers to cancel orders with minimal advance notice. Thus, even product built to satisfy specific customer orders may not ultimately be required to fulfill customer demand. Nevertheless, at any point in time, some portion of our inventory is subject to the risk of being materially in excess of our projected demand. Additionally, our average selling prices



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could decline due to market or other conditions, which creates a risk that costs of manufacturing our inventory may not be recovered. These factors contribute to the risk that we may be required to record additional inventory write-downs in the future, which could be material. In addition, if actual market conditions are more favorable than expected, inventory previously written down may be sold to customers resulting in lower cost of sales and higher income from operations than expected in that period.

*Taxes.* We account for income taxes under the liability method, whereby deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to affect taxable income. We make certain estimates and judgments in the calculation of tax liabilities and the determination of deferred tax assets, which arise from temporary differences between tax and financial statement recognition methods. We record a valuation allowance to reduce our deferred tax assets to the amount that management estimates is more likely than not to be realized. As of March 31, 2019, our net deferred tax assets of \$6.7 million are subject to a valuation allowance of \$6.7 million. If, in the future we determine that we are likely to realize all or part of our net deferred tax assets, an adjustment to deferred tax assets would be added to earnings in the period such determination is made.

We re-measured all deferred tax assets and liabilities as of December 22, 2017, based on the provisions of H.R. 1. This new legislation resulted in an estimated tax provision of \$367,000 in the year ended March 31, 2018 related to the transition tax associated with deemed repatriation of foreign earnings. In addition, we recorded a deferred tax benefit related to a valuation allowance release of \$101,000 as a result of provisions in the new legislation related to indefinite lived net operating loss carryovers and the refundability of minimum tax credit carryovers. During the year ended March 31, 2019, we completed our assessment of the impact of H.R. 1 and recorded an immaterial additional liability that is included in Income Taxes Payable in the Consolidated Balance Sheet as of March 31, 2019.

In addition, the calculation of tax liabilities involves inherent uncertainty in the application of complex tax laws. We record tax reserves for additional taxes that we estimate we may be required to pay as a result of future potential examinations by federal and state taxing authorities. If the payment ultimately proves to be unnecessary, the reversal of these tax reserves would result in tax benefits being recognized in the period we determine such reserves are no longer necessary. If an ultimate tax assessment exceeds our estimate of tax liabilities, an additional charge to provision for income taxes will result.

Authoritative guidance prescribes a comprehensive model for how a company should recognize, measure, present, and disclose in its financial statements uncertain tax positions that the company has taken or expects to take on a tax return (including a decision whether to file or not to file a return in a particular jurisdiction). Under this guidance, the financial statements will reflect expected future tax consequences of such positions presuming the taxing authorities' full knowledge of the position and all relevant facts, but without considering time values.

*Stock-Based Compensation.* Under authoritative guidance, stock-based compensation expense recognized in the statement of operations is based on options ultimately expected to vest, reduced by the amount of estimated forfeitures. We chose the straight-line method of allocating compensation cost over the requisite service period of the related award in accordance with the authoritative guidance. We calculated the expected term based on the historical average period of time that options were outstanding as adjusted for expected changes in future exercise patterns, which, for options granted in fiscal 2019, 2018 and 2017, resulted in an expected term of approximately five years. We used our historical volatility to estimate expected volatility in fiscal 2019, 2018 and 2017. The risk-free interest rate is based on the U.S. Treasury yields in effect at the time of grant for periods corresponding to the expected life of the options. The dividend yield is 0% based on the fact that we have never paid dividends and have no present intention to pay dividends. Determining some of these assumptions requires significant judgment and changes to these assumptions could result in a significant change to the calculation of stock-based compensation in future periods.

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Cash flows, if any, resulting from the tax benefits from tax deductions in excess of the compensation cost recognized for those options (excess tax benefits) are classified as financing cash flows.

As stock-based compensation expense recognized in the Consolidated Statement of Operations is based on awards ultimately expected to vest, it has been reduced for estimated forfeitures. We estimate forfeitures at the time of grant and revise the original estimates, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

We have no stock-based compensation arrangements with non-employees except for stock options granted to our non-employee directors.

*Contingent Consideration.* The fair value of the contingent consideration liability potentially payable in connection with our acquisition of MikaMonu was initially determined as of the acquisition date using unobservable inputs. These inputs included the estimated amount and timing of future cash flows, the probability of success (achievement of the various contingent events) and a risk-adjusted discount rate to adjust the probability-weighted cash flows to their present value. Subsequent to the acquisition date, at each reporting period, the contingent consideration liability will be re-measured at its then current fair value with changes recorded in the Consolidated Statements of Operations. Changes in any of the inputs may result in material adjustments to the recorded fair value.

*Valuation of Goodwill.* Goodwill represents the difference between the purchase price and the estimated fair value of the identifiable assets acquired and liabilities assumed in a business combination. We test for goodwill impairment on an annual basis, or more frequently if events or changes in circumstances indicate that the asset is more likely than not impaired. We have one reporting unit. We assess goodwill for impairment on an annual basis on the last day of February in the fourth quarter of our fiscal year.

As of March 31, 2019, we had a goodwill balance of \$8.0 million. The goodwill resulted from the acquisition of MikaMonu in fiscal 2016.

We utilized a two-step quantitative analysis to complete our annual impairment test during the fourth quarter of fiscal 2019 and concluded that there was no impairment, as the fair value of our sole reporting unit exceeded its carrying value. We determined that the second step of the impairment test was not necessary. We believe that the fair value established during the fiscal 2019 annual goodwill impairment testing was reasonable, and no triggering event has taken place subsequent to the fiscal 2019 annual assessment. However, a sustained decline in our stock price could constitute a triggering event that would require an interim assessment for potential goodwill impairment in fiscal 2020.

### **Off-Balance Sheet Arrangements**

At March 31, 2019, we did not have any off-balance sheet arrangements or relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. Accordingly, we are not exposed to the type of financing, liquidity, market or credit risk that could arise if we had engaged in such relationships.

**Recent Accounting Pronouncements**

Please refer to Note 1 to our consolidated financial statements appearing under Part II, Item 8 for a discussion of recent accounting pronouncements that may impact the Company.

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

*Foreign Currency Exchange Risk.* Our revenues and expenses, except those expenses related to our operations in Israel and Taiwan, including subcontractor manufacturing expenses in Taiwan, are denominated in U.S. dollars. As a result, we have relatively little exposure for currency exchange risks, and foreign exchange losses have been minimal to date. We do not currently enter into forward exchange contracts to hedge exposure denominated in foreign currencies or any other derivative financial instruments for trading or speculative purposes. In the future, if we believe our foreign currency exposure has increased, we may consider entering into hedging transactions to help mitigate that risk.

*Interest Rate Sensitivity.* We had cash, cash equivalents, short term investments and long-term investments totaling \$70.8 million at March 31, 2019. These amounts were invested primarily in money market funds, certificates of deposit and agency bonds. The cash, cash equivalents and short-term marketable securities are held for working capital purposes. We do not enter into investments for trading or speculative purposes. Due to the short-term nature of these investments, we believe that we do not have any material exposure to changes in the fair value of our investment portfolio as a result of changes in interest rates. We believe a hypothetical 100 basis point increase in interest rates would not materially affect the fair value of our interest-sensitive financial instruments. Declines in interest rates, however, will reduce future investment income.

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Item 8. *Financial Statements and Supplementary Data*

GSI TECHNOLOGY, INC.

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**Report of Independent Registered Public Accounting Firm**

Shareholders and Board of Directors  
GSI Technology, Inc.  
Sunnyvale, California

**Opinion on the Consolidated Financial Statements**

We have audited the accompanying consolidated balance sheets of GSI Technology, Inc. (the “Company”) and subsidiaries as of March 31, 2019 and 2018, the related consolidated statements of operations and comprehensive loss, stockholders’ equity, and cash flows for each of the two years in the period ended March 31, 2019, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company and subsidiaries at March 31, 2019 and 2018, and the results of their operations and their cash flows for each of the two years in the period ended March 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company’s internal control over financial reporting as of March 31, 2019, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”) and our report dated June 13, 2019 expressed an unqualified opinion thereon.

**Change in Accounting Principle**

As discussed in Note 1 to the consolidated financial statements, the Company has changed its accounting method for recognizing revenue from contracts with customers in fiscal year 2019 due to the adoption of Topic 606: Revenue from Contracts with Customers.

**Basis for Opinion**

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (“PCAOB”) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ BDO USA, LLP

We have served as the Company's auditor since 2017.

San Jose, California  
June 13, 2019

**Report of Independent Registered Public Accounting Firm**

Shareholders and Board of Directors  
GSI Technology, Inc.  
Sunnyvale, California

**Opinion on Internal Control over Financial Reporting**

We have audited GSI Technology, Inc.'s (the "Company's") internal control over financial reporting as of March 31, 2019, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (the "COSO criteria"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of March 31, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of the Company and subsidiaries as of March 31, 2019 and 2018, the related consolidated statements of operations and comprehensive loss, stockholders' equity, and cash flows for each of the two years in the period ended March 31, 2019, and the related notes, and our report dated June 13, 2019 expressed an unqualified opinion thereon.

**Basis for Opinion**

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Item 9A, Controls and Procedures. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

**Definition and Limitations of Internal Control over Financial Reporting**

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

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ BDO USA, LLP  
San Jose, California  
June 13, 2019

**Report of Independent Registered Public Accounting Firm**

To the Board of Directors and Stockholders of GSI Technology, Inc.:

In our opinion, the consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for the year ended March 31, 2017 present fairly, in all material respects, the results of operations and cash flows of GSI Technology, Inc. and its subsidiaries for the year ended March 31, 2017, in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit of these financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP

San Jose, California

June 5, 2017

**GSI TECHNOLOGY, INC.**  
**CONSOLIDATED BALANCE SHEETS**

	<b>March 31,</b>	
	<b>2019</b>	<b>2018</b>
	<b>(In thousands, except share and per share amounts)</b>	
<b>ASSETS</b>		
Cash and cash equivalents	\$ 42,495	\$ 40,241
Short-term investments	19,346	18,124
Accounts receivable, net	7,339	5,279
Inventories	5,685	5,547
Prepaid expenses and other current assets	2,500	2,080
<b>Total current assets</b>	<b>77,365</b>	<b>71,271</b>
Property and equipment, net	9,001	8,172
Long-term investments	8,997	7,923
Goodwill	7,978	7,978
Intangible assets, net	2,722	2,989
Other assets	160	1,207
<b>Total assets</b>	<b>\$ 106,223</b>	<b>\$ 99,540</b>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Accounts payable	\$ 1,864	\$ 1,841
Accrued expenses and other liabilities	6,869	5,563
<b>Total current liabilities</b>	<b>8,733</b>	<b>7,404</b>
Income taxes payable	622	619
Other accrued expenses	3,713	4,702
<b>Total liabilities</b>	<b>13,068</b>	<b>12,725</b>
Commitments and contingencies (Note 8)		
Stockholders' equity:		
Preferred stock: \$0.001 par value authorized: 5,000,000 shares; issued and outstanding: none	—	—
Common Stock: \$0.001 par value authorized: 150,000,000 shares; issued and outstanding: 22,320,156 and 21,407,247 shares, respectively	22	21
Additional paid-in capital	33,462	27,391
Accumulated other comprehensive loss	(37)	(142)
Retained earnings	59,708	59,545
<b>Total stockholders' equity</b>	<b>93,155</b>	<b>86,815</b>
<b>Total liabilities and stockholders' equity</b>	<b>\$ 106,223</b>	<b>\$ 99,540</b>

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



## GSI TECHNOLOGY, INC.

## CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended March 31,		
	2019	2018	2017
	<u>(In thousands, except per share amounts)</u>		
Net revenues	\$ 51,486	\$ 42,643	\$ 48,180
Cost of revenues	19,858	20,217	21,764
Gross profit	<u>31,628</u>	<u>22,426</u>	<u>26,416</u>
Operating expenses:			
Research and development	21,355	16,998	15,803
Selling, general and administrative	10,455	9,899	11,140
Total operating expenses	<u>31,810</u>	<u>26,897</u>	<u>26,943</u>
Loss from operations	(182)	(4,471)	(527)
Interest income, net	671	421	312
Other income (expense), net	(221)	(12)	166
Income (loss) before income taxes	268	(4,062)	(49)
Provision for income taxes	105	453	66
Net income (loss)	<u>\$ 163</u>	<u>\$ (4,515)</u>	<u>\$ (115)</u>
Net income (loss) per share:			
Basic	<u>\$ 0.01</u>	<u>\$ (0.21)</u>	<u>\$ (0.01)</u>
Diluted	<u>\$ 0.01</u>	<u>\$ (0.21)</u>	<u>\$ (0.01)</u>
Weighted average shares used in per share calculations:			
Basic	<u>21,889</u>	<u>21,085</u>	<u>20,652</u>
Diluted	<u>23,349</u>	<u>21,085</u>	<u>20,652</u>

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

GSI TECHNOLOGY, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

	Year Ended March 31,		
	2019	2018	2017
	(In thousands)		
Net income (loss)	\$ 163	\$ (4,515)	\$ (115)
Net unrealized gain (loss) on available-for-sale investments	105	(80)	(89)
Total comprehensive income (loss)	<u>\$ 268</u>	<u>\$ (4,595)</u>	<u>\$ (204)</u>

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

## GSI TECHNOLOGY, INC.

## CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Stockholders' Equity
	Shares	Amount				
(In thousands, except share amounts)						
Balance, March 31, 2016	21,716,364	\$ 22	\$ 25,050	\$ 27	\$ 64,770	\$ 89,869
Issuance of common stock under employee stock option plans	539,834	1	2,013	—	—	2,014
Repurchase and retirement of common stock	(1,643,441)	(2)	(7,110)	—	—	(7,112)
Stock-based compensation expense	—	—	1,877	—	—	1,877
Net loss	—	—	—	—	(115)	(115)
Net unrealized loss on available-for- sale investments	—	—	—	(89)	—	(89)
Balance, March 31, 2017	20,612,757	21	21,830	(62)	64,655	86,444
Issuance of common stock under employee stock option plans	794,490	—	3,491	—	—	3,491
Stock-based compensation expense	—	—	2,070	—	—	2,070
Impact of adoption of ASU 2016-16	—	—	—	—	(595)	(595)
Net loss	—	—	—	—	(4,515)	(4,515)
Net unrealized loss on available-for- sale investments	—	—	—	(80)	—	(80)
Balance, March 31, 2018	21,407,247	21	27,391	(142)	59,545	86,815
Issuance of common stock under employee stock option plans	933,746	1	3,908	—	—	3,909
Repurchase and retirement of common stock	(20,837)	—	(103)	—	—	(103)
Stock-based compensation expense	—	—	2,266	—	—	2,266
Net income	—	—	—	—	163	163
Net unrealized gain on available-for- sale investments	—	—	—	105	—	105
Balance, March 31, 2019	22,320,156	\$ 22	\$ 33,462	\$ (37)	\$ 59,708	\$ 93,155

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

## GSI TECHNOLOGY, INC.

## CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended March 31,		
	2019	2018	2017
	(In thousands)		
Cash flows from operating activities:			
Net income (loss)	\$ 163	\$ (4,515)	\$ (115)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Allowance for sales returns, doubtful accounts and other	39	(41)	4
Provision for excess and obsolete inventories	1,195	1,561	588
Depreciation and amortization	1,454	1,255	1,532
Stock-based compensation	2,266	2,070	1,877
Amortization of premium (discount) on investments	(36)	73	74
Changes in assets and liabilities:			
Accounts receivable	(2,099)	1,111	1,125
Inventory	(1,333)	2,103	(2,625)
Prepaid expenses and other assets	(144)	117	103
Accounts payable	48	189	(887)
Accrued expenses and other liabilities	1,453	(1,183)	911
Deferred revenue	—	(1,675)	(534)
Net cash provided by operating activities	3,006	1,065	2,053
Cash flows from investing activities:			
Purchase of investments	(20,307)	(13,243)	(18,563)
Maturities of short-term investments	18,173	16,140	23,600
Decrease in MikaMonu escrow deposit	750	1,234	—
Purchases of property and equipment	(2,090)	(1,320)	(219)
Net cash provided by (used in) investing activities	(3,474)	2,811	4,818
Cash flows from financing activities:			
Repurchase of common stock	(103)	—	(7,112)
Payment of MikaMonu escrow deposit	(364)	(862)	—
Payment of contingent consideration	(720)	—	—
Proceeds from issuance of common stock under employee stock plans	3,909	3,491	2,014
Net cash provided by (used in) financing activities	2,722	2,629	(5,098)
Net increase in cash and cash equivalents	2,254	6,505	1,773
Cash and cash equivalents at beginning of the period	40,241	33,736	31,963
Cash and cash equivalents at end of the period	\$ 42,495	\$ 40,241	\$ 33,736
Non-cash financing activities:			
Purchases of property and equipment through accounts payable and accruals	\$ 31	\$ 105	\$ —
Supplemental cash flow information:			
Net cash paid for income taxes	\$ 11	\$ 39	\$ 1,339

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

**NOTE 1—THE COMPANY AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

***The Company***

GSI Technology, Inc. (the “Company”) was incorporated in California in March 1995 and reincorporated in Delaware on June 9, 2004. The Company is a provider of high performance semiconductor memory solutions to networking, industrial, medical, aerospace and military customers. The Company’s products are incorporated primarily in high-performance networking and telecommunications equipment, such as routers, switches, wide area network infrastructure equipment, wireless base stations and network access equipment. In addition, the Company serves the ongoing needs of the military, industrial, test equipment and medical markets for high-performance SRAMs. The Company’s in-place associative computing product, currently under development, is targeted for markets including big data, computer vision and cyber security.

***Accounting principles***

The consolidated financial statements and accompanying notes were prepared in accordance with accounting principles generally accepted in the United States of America (“GAAP”).

***Basis of consolidation***

The consolidated financial statements include the accounts of the Company’s four wholly-owned subsidiaries, GSI Technology Holdings, Inc., GSI Technology (BVI), Inc., GSI Technology Israel Ltd. and GSI Technology Taiwan, Inc. All inter-company transactions and balances have been eliminated in consolidation.

***Use of estimates***

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Significant estimates are inherent in the preparation of the consolidated financial statements and include revenue recognition, obsolete and excess inventory, the valuation allowance on deferred tax assets, stock-based compensation, contingent consideration and the valuation of goodwill. Actual results could differ materially from those estimates.

***Risk and uncertainties***

The Company buys all of its SRAM and LLDRAM wafers, integral components of its products, from single suppliers and is also dependent on independent suppliers to assemble and test its products. During the years ended March 31, 2019, 2018 and 2017, all of the wafers used in the Company’s SRAM and LLDRAM products were supplied by Taiwan Semiconductor Manufacturing Company Limited, or TSMC, and Powerchip Technology Corporation, or Powerchip, respectively. If these suppliers fail to satisfy the Company’s requirements on a timely basis at competitive prices, the Company could suffer manufacturing delays, a possible loss of revenues, or higher cost of revenues, any of which could adversely affect operating results.

A majority of the Company’s net revenues come from sales to customers in the networking and telecommunications equipment industry. A decline in demand in this industry could have a material adverse effect on the Company’s operating results and financial condition.

Because much of the manufacturing and testing of the Company’s products is conducted in Taiwan, its business performance may be affected by changes in Taiwan’s political, social and economic environment. For example, any political instability resulting from the relationship among the United States, Taiwan and the People’s Republic of China could damage the Company’s business. Moreover, the role of the Taiwanese government in the

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Taiwanese economy is significant. Taiwanese policies toward economic liberalization, and laws and policies affecting technology companies, foreign investment, currency exchange rates, taxes and other matters could change, resulting in greater restrictions on the Company's and its suppliers' ability to do business and operate facilities in Taiwan. If any of these risks were to occur, the Company's business could be harmed.

Some of the Company's suppliers and the Company's two principal operations are located near fault lines. In the event of a major earthquake or other natural disaster near the facilities of any of these suppliers or the Company, the Company's business could be harmed.

From time to time, the Company is involved in legal actions. There are many uncertainties associated with any litigation, and the Company may not prevail. If information becomes available that causes us to determine that a loss in any of our pending litigation, or the settlement of such litigation, is probable, and we can reasonably estimate the loss associated with such events, we will record the loss in accordance with GAAP. However, the actual liability in any such litigation may be materially different from our estimates, which could require us to record additional costs.

### ***Revenue recognition***

The Company implemented ASU No. 2014-09, "*Revenue from Contracts with Customers (Topic 606)*" and several supplemental and/or clarifying ASUs (collectively, "ASC 606") in fiscal 2019. See discussion under "Recent Accounting Pronouncements" below. The Company recognizes revenue when control of the promised goods or services is transferred to its customers, in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. Under this criteria, revenue from the sale of products is generally recognized upon shipment according to the Company's shipping terms, net of accruals for estimated variable consideration resulting from sales returns and allowances based on historical experience. For sales to consignment warehouses, who purchase products from the Company for use by contract manufacturers, revenues are recognized upon delivery to the contract manufacturer. Prior to implementation of ASC 606, sales to certain distributors were made under agreements allowing for returns or credits under certain circumstances. We therefore deferred recognition of revenue on sales to those distributors under these terms until products were resold by the distributor. During fiscal 2018, we revised our distribution agreements to these distributors to eliminate ship from stock and debits and price protection. Under these revised distribution agreements, selling prices were fixed and determinable on the date of shipment and revenue was recognized upon shipment. Additionally, we recognized additional revenue of \$2.0 million in fiscal 2018 on the dates that the distribution agreements were revised for product held by our distributors as the price became fixed and determinable.

### ***Cash and cash equivalents***

Cash and cash equivalents include cash in demand accounts and highly liquid investments purchased with an original or remaining maturity of three months or less at the date of purchase, stated at cost, which approximates their fair value.

### ***Short-term and long-term investments***

All of the Company's short-term and long-term investments are classified as available-for-sale. Available-for-sale debt securities with maturities greater than twelve months are classified as long-term investments when they are not intended for use in current operations. Investments in available-for-sale securities are reported at fair value with unrecognized gains (losses), net of tax, as a component of "Accumulated other comprehensive income (loss)" on the Consolidated Balance Sheets. The Company monitors its investments for impairment periodically and records appropriate reductions in carrying values when the declines in fair value are determined to be other-than-temporary.

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***Concentration of credit risk***

Financial instruments that potentially subject the Company to a concentration of credit risk consist primarily of cash, cash equivalents, short-term and long-term investments and accounts receivable. The Company places its cash primarily in checking, certificate of deposit, and money market accounts with reputable financial institutions, and by policy, limits the amount of credit exposure with any one financial institution or commercial issuer. The Company's accounts receivable are derived primarily from revenue earned from customers located in the U.S. and Asia. The Company performs ongoing credit evaluations of its customers' financial condition and, generally, requires no collateral from its customers. The Company maintains an allowance for doubtful accounts receivable based upon the expected collectability of accounts receivable. There were no write offs of accounts receivable in the years ended March 31, 2019, 2018 or 2017.

At March 31, 2019, three customers accounted for 44%, 22% and 17% of accounts receivable, and for the year then ended, four customers accounted for 31%, 22%, 18% and 15% of net revenues. At March 31, 2018, four customers accounted for 26%, 25%, 21%, and 13% of accounts receivable, and for the year then ended, four customers accounted for 35%, 16%, 16% and 13% of net revenues. For the year ended March 31, 2017, four customers accounted for 26%, 20%, 20% and 10% of net revenues.

***Inventories***

Inventories are stated at the lower of cost or net realizable value, cost being determined on a weighted average basis. Inventory write-down allowances are established when conditions indicate that the selling price could be less than cost due to physical deterioration, obsolescence, changes in price levels, or other causes. These allowances, once recorded, result in a new cost basis for the related inventory. These allowances are also considered for excess inventory generally based on inventory levels in excess of 12 months of forecasted demand, as estimated by management, for each specific product. The allowance is not reversed until the inventory is sold or disposed.

The Company recorded write-downs of excess and obsolete inventories of \$1.2 million, \$1.6 million and \$588,000, respectively, in fiscal 2019, 2018 and 2017.

***Property and equipment, net***

Property and equipment are stated at cost. Depreciation is computed using the straight-line method over the estimated useful lives of the assets as presented below:

Software	3 to 5 years
Computer and other equipment	5 to 10 years
Building and building improvements	10 to 25 years
Furniture and fixtures	7 years

Leasehold improvements are amortized using the straight-line method over the shorter of the estimated useful lives of the assets or the remaining lease term of the respective assets. Gains or losses on disposals of property and equipment are recorded within income from operations. Costs of repairs and maintenance are included as part of operating expenses unless they are incurred in relation to major improvements to existing property and equipment, at which time they are capitalized.

***Impairment of long-lived assets***

Long-lived assets held and used by the Company are reviewed for impairment whenever events or changes in circumstances indicate that their net book value may not be recoverable. If the sum of the expected future cash flows (undiscounted and before interest) from the use of the assets is less than the net book value of the asset an impairment could exist and the amount of the impairment loss, if any, will generally be measured as the difference

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between the net book value of the assets and their estimated fair values. There were no impairment losses recognized during the years ended March 31, 2019, 2018 or 2017.

### ***Goodwill and intangible assets***

Goodwill is not amortized but is tested for impairment on an annual basis or whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable.

The Company assesses goodwill for impairment on an annual basis on the last day of February in the fourth quarter of its fiscal year and if certain events or circumstances indicate that an impairment loss may have been incurred, on an interim basis. The Company has one reporting unit. In accordance with ASU 2011-08, *Testing Goodwill for Impairment*, qualitative factors can be assessed to determine whether it is necessary to perform the current two-step test for goodwill impairment. If an entity believes, as a result of its qualitative assessment, that it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, the quantitative impairment test is required. Otherwise, no further testing is required.

Intangible assets with finite useful lives are amortized over their estimated useful lives, generally on a straight-line basis over five to fifteen years. The Company reviews identifiable amortizable intangible assets for impairment whenever events or changes in circumstances indicate that the carrying value of the assets may not be recoverable. Determination of recoverability is based on the lowest level of identifiable estimated undiscounted cash flows resulting from use of the asset and its eventual disposition. Measurement of any impairment loss is based on the excess of the carrying value of the asset over its fair value.

### ***Research and development***

Research and development expenses are related to new product designs, including, salaries, stock-based compensation, contractor fees, and allocation of corporate costs and are charged to the statement of operations as incurred.

### ***Income taxes***

The Company accounts for income taxes under the liability method, whereby deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to affect taxable income. Valuation allowances are established when it is more likely than not that the deferred tax asset will not be realized. Because the Company recorded a cumulative three-year loss on a U.S. tax basis for the years ended March 31, 2019 and 2018, the Company has recorded a tax provision reflecting substantially a full valuation allowance of its \$6.7 million and \$5.9 million of net deferred tax assets at March 31, 2019 and 2018, respectively.

Authoritative guidance prescribes a comprehensive model for how a company should recognize, measure, present, and disclose in its financial statements uncertain tax positions that the company has taken or expects to take on a tax return (including a decision whether to file or not to file a return in a particular jurisdiction). Under the guidance, the financial statements will reflect expected future tax consequences of such positions presuming the taxing authorities' full knowledge of the position and all relevant facts, but without considering time values. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation process, if any. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon ultimate settlement.

### ***Shipping and handling costs***

The Company records costs related to shipping and handling in cost of revenues.



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### ***Advertising expense***

Advertising costs are charged to expense in the period incurred. Advertising expense was not material for the years ended March 31, 2019, 2018 and 2017, respectively.

### ***Foreign currency transactions***

The U.S. dollar is the functional currency for all of the Company's foreign operations. Foreign currency transaction gains and losses, resulting from transactions denominated in currencies other than U.S. dollars are included in the Consolidated Statements of Operations. These gains and losses were not material for the years ended March 31, 2019, 2018 or 2017.

### ***Segments***

Segment reporting is based on the "management approach," following the method that management organizes the Company's reportable segments for which separate financial information is made available to, and evaluated regularly by, the chief operating decision maker in allocating resources and in assessing performance. The Company's chief operating decision maker is its Chief Executive Officer ("CEO"), who makes decision on allocating resources and in assessing performance. The CEO reviews the Company's consolidated results as one operating segment. In making operating decisions, the CEO primarily considers consolidated financial information, accompanied by disaggregated information about revenues by customers and product. All of the Company's principal operations and decision-making functions are located in the U.S. The Company's CEO views its operations, manages its business, and uses one measurement of profitability for the one operating segment, which designs, develops and sells integrated circuits.

### ***Accounting for stock-based compensation***

Stock-based compensation expense recognized in the Consolidated Statement of Operations is based on options ultimately expected to vest, reduced by the amount of estimated forfeitures. The Company chose the straight-line method of allocating compensation cost over the requisite service period of the related award according to authoritative guidance. The Company calculates the expected term based on the historical average period of time that options were outstanding as adjusted for expected changes in future exercise patterns, which, for options granted in fiscal 2019, 2018 and 2017 resulted in an expected term of approximately five years. The Company uses its historical volatility to estimate expected volatility. The risk-free interest rate is based on the U.S. Treasury yields in effect at the time of grant for periods corresponding to the expected life of the options. The dividend yield is 0%, based on the fact that the Company has never paid dividends and has no present intention to pay dividends. Changes to these assumptions may have a significant impact on the results of operations.

Authoritative guidance requires cash flows, if any, resulting from the tax benefits from tax deductions in excess of the compensation cost recognized for those options (excess tax benefits) to be classified as financing cash flows in the Consolidated Statements of Cash Flows.

### ***Comprehensive income (loss)***

Comprehensive income (loss) is defined to include all changes in stockholders' equity during a period except those resulting from investments by owners and distributions to owners. For the years ended March 31, 2019, 2018 and 2017, comprehensive income (loss) was \$268,000, (\$4.6) million and (\$204,000), respectively.

### ***Business combinations***

The Company allocates the fair value of the purchase consideration of its acquisitions to the tangible assets, liabilities, and intangible assets acquired, based on their estimated fair values. Goodwill represents the excess of

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acquisition cost over the fair value of tangible and identified intangible net assets of businesses acquired. Transaction costs and costs to restructure the acquired company are expensed as incurred. The operating results of the acquired company are reflected in the Company's consolidated financial statements after the closing date of the business combination.

### **Recent accounting pronouncements**

In August 2018, the Financial Accounting Standards Board ("FASB") issued ASU No. 2018-13, "*Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement.*" The standard amends the disclosure requirements for recurring and nonrecurring fair value measurements by removing, modifying, and adding certain disclosures. The standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. Early adoption is permitted. The Company does not anticipate the adoption of this guidance to have a material impact on its consolidated financial statements and related disclosures.

In August 2018, the SEC adopted the final rule under SEC Release No. 33-10532, "*Disclosure Update and Simplification,*" amending certain disclosure requirements that were redundant, duplicative, overlapping, outdated or superseded. In addition, the amendments expanded the disclosure requirements on the analysis of stockholders' equity for interim financial statements. Under the amendments, an analysis of changes in each caption of stockholders' equity presented in the balance sheet must be provided in a note or separate statement. The analysis should present a reconciliation of the beginning balance to the ending balance of each period for which a statement of comprehensive income is required to be filed. The Company anticipates its first presentation of changes in shareholders' equity will be included in its Form 10-Q for the quarter ended June 30, 2019.

In January 2017, the FASB issued ASU No. 2017-04, "*Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment.*" The standard eliminates the second step in the goodwill impairment test which requires an entity to determine the implied fair value of the reporting unit's goodwill. Instead, an entity should recognize an impairment loss if the carrying value of the net assets assigned to the reporting unit exceeds the fair value of the reporting unit, with the impairment loss not to exceed the amount of goodwill allocated to the reporting unit. The standard is effective for annual and interim goodwill impairment tests conducted in fiscal years beginning after December 15, 2019, with early adoption permitted. The Company does not anticipate the adoption of this guidance to have a material impact on its consolidated financial statements and related disclosures.

In November 2016, the FASB issued ASU No. 2016-18, "*Statement of Cash Flows (Topic 230): Restricted Cash.*" ASU 2016-18 requires entities to include in their cash and cash-equivalent balances in the statement of cash flows those amounts that are deemed to be restricted cash and restricted cash equivalents. As a result, companies will no longer present transfers between cash and cash equivalents, and restricted cash and restricted cash equivalents in the statement of cash flows. The Company adopted ASU 2016-18 in the quarter ended June 30, 2018. Implementation of this guidance did not have a material impact on the Company's consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, "*Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments.*" ASU 2016-13 replaces the incurred loss impairment methodology in current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. For trade and other receivables, loans, and other financial instruments, the Company will be required to use a forward-looking expected loss model rather than the incurred loss model for recognizing credit losses which reflects losses that are probable. Credit losses relating to available-for-sale debt securities will also be recorded through an allowance for credit losses rather than as a reduction in the amortized cost basis of the securities. ASU 2016-13 is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years, with early adoption permitted beginning April 1, 2019. Application of the amendments is through a cumulative-effect adjustment to retained earnings as of the effective date. The Company is currently evaluating the impact of this standard on its consolidated financial statements.

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In February 2016, the FASB issued ASU 2016-02, "*Leases (Topic 842)*." The core principle of Topic 842 is that a lessee should recognize the assets and liabilities that arise from leases. All leases create an asset and a liability for the lessee in accordance with FASB Concepts Statement No. 6, "*Elements of Financial Statements*," and, therefore, recognition of those lease assets and lease liabilities represents a change of previous GAAP, which did not require lease assets and lease liabilities to be recognized for most leases. In July 2018, the FASB issued ASU 2018-11, "*Leases (Topic 842): Targeted Improvements*," which provides clarifications and improvements to ASU 2016-02 including allowing entities to elect an additional transition method, a modified retrospective approach, that permits changes to be applied by means of a cumulative-effect adjustment recorded in retained earnings as of the beginning of the fiscal year of adoption. Consequently, an entity's reporting for the comparative periods presented in the year of adoption would continue to be in accordance with ASC 840, *Leases (Topic 840)* ("ASC 840"), including the disclosure requirements of ASC 840. The Company intends to implement ASC 840 using this modified retrospective approach. The new guidance will be effective for the Company starting in the first quarter of fiscal 2020.

The Company does not expect to restate comparative periods, as permitted by ASU 2018-11, and intends to elect the package of practical expedients permitted under the transition guidance within the new standard, which among other things, allows the Company to carry forward the historical lease classification. Further, the Company will make an accounting policy election to keep leases with an initial term of 12 months or less off of the balance sheet. The Company will recognize those lease payments in the Consolidated Statements of Operations on a straight-line basis over the lease term.

The Company has completed its preliminary evaluation of the impact the new lease accounting guidance will have on its Consolidated Financial Statements and expects to recognize new right of use assets and lease liabilities of approximately \$1.0 million to \$1.2 million for its operating leases on the Consolidated Balance Sheet upon adoption. The Company has no lease assets and liabilities under capital leases as of March 31, 2019. The Company does not expect the changes to have a material impact on the Consolidated Statements of Operations and the Consolidated Statements of Cash Flows. Further, upon adoption, the Company will expand its financial statement disclosures to present additional details of its leasing arrangements.

In January 2016, the FASB issued ASU 2016-01, "*Financial Instruments – Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*." ASU 2016-01 requires equity investments to be measured at fair value with changes in fair value recognized in net income and simplifies the impairment assessment of equity investments without readily determinable fair values by requiring a qualitative assessment to identify impairment. The accounting standard update also updates certain presentation and disclosure requirements. The Company adopted ASU 2016-01 in the quarter ended June 30, 2018. Implementation of this guidance did not have a material impact on the Company's consolidated financial statements.

In May 2014, the FASB issued ASU No. 2014-09, "*Revenue from Contracts with Customers (Topic 606)*" and has subsequently issued several supplemental and/or clarifying ASUs (collectively, "ASC 606"). The new accounting standard outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance. The new standard requires a company to recognize revenue as control of goods or services transfers to a customer at an amount that reflects the expected consideration to be received in exchange for those goods or services. It defines a five-step approach for recognizing revenue, which may require a company to use more judgment and make more estimates than under the current standard. The Company adopted ASC 606 on April 1, 2018 using the modified retrospective transition method. See Note 2 for further detail.

### **NOTE 2 —REVENUE RECOGNITION**

Upon adoption of ASC 606 in fiscal 2019, the Company determines revenue recognition through the following steps: (1) identification of the contract with a customer; (2) identification of the performance obligations

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in the contract; (3) determination of the transaction price; (4) allocation of the transaction price to the performance obligations in the contract; and (5) recognition of revenue when, or as, we satisfy a performance obligation.

The adoption of ASC 606 was applied to all contracts and did not have a significant impact on the Company's retained earnings as the timing of Company's revenue recognition under the new standard coincides with the way the Company previously recognized revenue. There was no impact on the opening retained earnings balance as of April 1, 2018 due to the adoption of ASC 606.

The majority of the Company's customer contracts, which may be in the form of purchase orders, contracts or purchase agreements, contain performance obligations for delivery of agreed upon products. Delivery of all performance obligations contained within a contract with a customer typically occurs at the same time (or within the same accounting period). Transfer of control typically occurs at the time of shipment or at the time the product is pulled from consignment as that is the point at which delivery has occurred, title and the risks and rewards of ownership have passed to the customer, and the Company has a right to payment. Thus, the Company will generally recognize revenue upon shipment of the product.

Because all of the Company's performance obligations relate to contracts with a duration of less than one year, the Company elected to apply the optional exemption practical expedient provided in ASC 606 and, therefore, is not required to disclose the aggregate amount of the transaction price allocated to performance obligations that are unsatisfied or partially unsatisfied at the end of the reporting period.

The Company adjusts the transaction price for variable consideration. Variable consideration is not typically significant and primarily results from stock rotation rights and quick pay discounts provided to our distributors. As a practical expedient, the Company is recognizing the incremental costs of obtaining a contract, specifically commission expenses that have a period of benefit of less than twelve months, as an expense when incurred. Additionally, the Company has adopted an accounting policy to recognize shipping costs that occur after control transfers to the customer as a fulfillment activity.

The Company's contracts with customers do not typically include extended payment terms. Payment terms vary by contract type and type of customer and generally range from 30 to 60 days from shipment. Additionally, the Company has right to payment upon shipment.

The Company records revenue net of sales tax, value added tax, excise tax and other taxes collected concurrent with product sales. The impact of such taxes on products sales is immaterial. The Company has also elected to recognize the cost for freight and shipping when control over the products sold passes to customers and revenue is recognized.

The Company warrants its products to be free of defects generally for a period of three years. The Company estimates its warranty costs based on historical warranty claim experience and includes such costs in cost of revenues. Warranty costs and the accrued warranty liability were not material as of March 31, 2019.

The majority of the Company's revenue is derived from sales of SRAM products which represent approximately 99% of total revenues in the year ended March 31, 2019.

Nokia, the Company's largest customer, purchases products directly from the Company and through contract manufacturers and distributors. Based on information provided to the Company by its contract manufacturers and distributors, purchases by Nokia represented approximately 45% of the Company's net revenues in the year ended March 31, 2019.

The Company historically deferred recognition of revenue on shipments to its distributors under prior revenue guidance because it lacked fixed and determinable pricing for contracts in which the distributors had rights to price concessions from the Company upon shipment to the distributors' customers. During fiscal 2018, the Company

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revised all of its distribution agreements to eliminate the uncertainty in pricing, allowing the Company to recognize revenue at the time of shipment to the distributors. As a result, the implementation of the new revenue guidance did not have a significant impact on the Company's consolidated financial statements. See "Note 11 - Segment and Geographic Information" for revenue by shipment destination.

The following table presents the Company's revenue disaggregated by customer type.

	Year Ended March 31,		
	2019	2018	2017
	(In thousands)		
Contract manufacturers	\$ 21,281	\$ 14,875	\$ 18,768
Distribution	28,807	26,635	27,716
OEM's	1,398	1,133	1,696
	<u>\$ 51,486</u>	<u>\$ 42,643</u>	<u>\$ 48,180</u>

**NOTE 3—NET INCOME (LOSS) PER COMMON SHARE**

The Company uses the treasury stock method to calculate the weighted average shares used in computing diluted net income (loss) per share. The following table sets forth the computation of basic and diluted net income (loss) per share:

	Year Ended March 31,		
	2019	2018	2017
	(In thousands, except per share amounts)		
Net income (loss)	<u>\$ 163</u>	<u>\$ (4,515)</u>	<u>\$ (115)</u>
Denominators:			
Weighted average shares—Basic	21,889	21,085	20,652
Dilutive effect of employee stock options	1,453	—	—
Dilutive effect of employee stock purchase plan options	7	—	—
Weighted average shares—Dilutive	<u>23,349</u>	<u>21,085</u>	<u>20,652</u>
Net income (loss) per common share—Basic	<u>\$ 0.01</u>	<u>\$ (0.21)</u>	<u>\$ (0.01)</u>
Net income (loss) per common share—Diluted	<u>\$ 0.01</u>	<u>\$ (0.21)</u>	<u>\$ (0.01)</u>

The following shares of common stock (determined on a weighted average basis) were excluded from the computation of diluted net income (loss) per common share as they had an anti-dilutive effect:

	Year Ended March 31,		
	2019	2018	2017
	(In thousands)		
Shares underlying options and ESPP shares	<u>2,108</u>	<u>2,790</u>	<u>5,483</u>

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**NOTE 4—BALANCE SHEET DETAIL**

	<b>March 31,</b>	
	<b>2019</b>	<b>2018</b>
	<b>(In thousands)</b>	
<b>Inventories:</b>		
Work-in-progress	\$ 1,983	\$ 2,226
Finished goods	3,690	3,299
Inventory at distributors	12	22
	<u>\$ 5,685</u>	<u>\$ 5,547</u>
	<b>March 31,</b>	
	<b>2019</b>	<b>2018</b>
	<b>(In thousands)</b>	
<b>Accounts receivable, net:</b>		
Accounts receivable	\$ 7,441	\$ 5,342
Less: Allowances for doubtful accounts and other	(102)	(63)
	<u>\$ 7,339</u>	<u>\$ 5,279</u>
	<b>March 31,</b>	
	<b>2019</b>	<b>2018</b>
	<b>(In thousands)</b>	
<b>Prepaid expenses and other current assets:</b>		
Prepaid tooling and masks	\$ 535	\$ 163
Prepaid income taxes	39	—
Escrow deposit	1,000	750
Other receivables	321	370
Other prepaid expenses and other current assets	605	797
	<u>\$ 2,500</u>	<u>\$ 2,080</u>
	<b>March 31,</b>	
	<b>2019</b>	<b>2018</b>
	<b>(In thousands)</b>	
<b>Property and equipment, net:</b>		
Computer and other equipment	\$ 19,086	\$ 17,845
Software	4,058	4,072
Land	3,900	3,900
Building and building improvements	3,718	2,310
Furniture and fixtures	102	82
Leasehold improvements	848	766
Construction in progress	—	965
	<u>31,712</u>	<u>29,940</u>
Less: Accumulated depreciation	<u>(22,711)</u>	<u>(21,768)</u>
	<u>\$ 9,001</u>	<u>\$ 8,172</u>

Depreciation expense was \$1.2 million, \$934,000 and \$1.2 million for the years ended March 31, 2019, 2018 and 2017, respectively. The construction in progress related to a facility expansion at our Sunnyvale headquarters that was placed in service in the first quarter of fiscal 2019.

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	March 31,	
	2019	2018
(In thousands)		
Other assets:		
Escrow deposit	\$ —	\$ 1,000
Non-current deferred income taxes	35	75
Deposits	125	132
	<u>\$ 160</u>	<u>\$ 1,207</u>

The following table summarizes the components of intangible assets and related accumulated amortization balances at March 31, 2019 and 2018, respectively (in thousands):

	As of March 31, 2019		
	Gross Carrying Amount	Accumulated amortization	Net Carrying Amount
Intangible assets:			
Product designs	\$ 590	\$ (590)	\$ —
Patents	4,220	(1,498)	2,722
Software	80	(80)	—
Total	<u>\$ 4,890</u>	<u>\$ (2,168)</u>	<u>\$ 2,722</u>

	As of March 31, 2018		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Intangible assets:			
Product designs	\$ 590	\$ (590)	\$ —
Patents	4,220	(1,231)	2,989
Software	80	(80)	—
Total	<u>\$ 4,890</u>	<u>\$ (1,901)</u>	<u>\$ 2,989</u>

Amortization of intangible assets of \$267,000, \$313,000 and \$349,000 was included in cost of revenues for the years ended March 31, 2019, 2018 and 2017, respectively.

As of March 31, 2019, the estimated future amortization expense of intangible assets in the table above is as follows (in thousands):

<b>Twelve month period ending March 31,</b>	
2020	\$ 233
2021	233
2022	233
2023	233
2024	233
Thereafter	1,557
Total	<u>\$ 2,722</u>

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	<u>March 31,</u>	
	<u>2019</u>	<u>2018</u>
	<u>(In thousands)</u>	
Accrued expenses and other liabilities:		
Accrued compensation	\$ 4,659	\$ 2,786
Accrued professional fees	60	31
Accrued commissions	304	299
Contingent consideration	492	1,102
Accrued retention payment	415	291
Miscellaneous accrued expenses	939	1,054
	<u>\$ 6,869</u>	<u>\$ 5,563</u>

	<u>March 31,</u>	
	<u>2019</u>	<u>2018</u>
	<u>(In thousands)</u>	
Other accrued expenses:		
Contingent consideration	\$ 3,713	\$ 4,411
Other long-term accrued liabilities	—	291
	<u>\$ 3,713</u>	<u>\$ 4,702</u>

**NOTE 5—GOODWILL**

Goodwill represents the difference between the purchase price and the estimated fair value of the identifiable assets acquired and liabilities assumed in a business combination. The Company tests for goodwill impairment on an annual basis, or more frequently if events or changes in circumstances indicate that the asset is more likely than not impaired. The Company has one reporting unit. The Company assesses goodwill for impairment on an annual basis on the last day of February in the fourth quarter of its fiscal year.

The Company had a goodwill balance of \$8.0 million as of both March 31, 2019 and 2018. The goodwill resulted from the acquisition of MikaMonu Group Ltd. (“MikaMonu”) in fiscal 2016.

The Company utilized a two-step quantitative analysis to complete its annual impairment test during the fourth quarter of fiscal 2019 and concluded that there was no impairment, as the fair value of its sole reporting unit exceeded its carrying value. The Company determined that the second step of the impairment test was not necessary. The Company believes that the fair value established during the fiscal 2019 annual goodwill impairment testing was reasonable, and no triggering event has taken place subsequent to the fiscal 2019 annual assessment.



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**NOTE 6—INCOME TAXES**

Loss before income taxes and the provision for income taxes consists of the following:

	<b>Year Ended March 31,</b>		
	<b>2019</b>	<b>2018</b>	<b>2017</b>
	(In thousands)		
Income (loss) before income taxes:			
U.S.	\$ (5,487)	\$ (3,654)	\$ (4,938)
Foreign	5,755	(408)	4,889
	<u>\$ 268</u>	<u>\$ (4,062)</u>	<u>\$ (49)</u>
Current income tax expense (benefit):			
U.S. federal	\$ (28)	\$ 367	\$ (14)
Foreign	121	153	736
State	1	1	4
	<u>94</u>	<u>521</u>	<u>726</u>
Deferred income tax expense (benefit):			
U.S. federal	13	(90)	14
Foreign	—	22	(674)
State	(2)	—	—
	<u>11</u>	<u>(68)</u>	<u>(660)</u>
Provision for income taxes	<u>\$ 105</u>	<u>\$ 453</u>	<u>\$ 66</u>

The provision for income tax differs from the amount of income tax determined by applying the applicable U.S. statutory income tax rate to pre-tax loss as follows:

	<b>Year Ended March 31,</b>		
	<b>2019</b>	<b>2018</b>	<b>2017</b>
	(In thousands)		
U.S. Federal taxes at statutory rate	\$ 56	\$ (1,282)	\$ (17)
State taxes, net of federal benefit	(2)	—	3
Deemed repatriation transfer tax	—	5,117	—
Deferred tax re-measurement, change in tax rates	—	1,093	—
Stock-based compensation	(124)	(124)	630
Tax credits	(536)	(417)	(398)
Foreign tax rate differential	117	390	(1,525)
Tax exempt interest	(4)	(8)	(5)
Non-deductible expenses and other	17	97	24
	<u>(476)</u>	<u>4,866</u>	<u>(1,288)</u>
Valuation allowance	581	(4,413)	1,354
	<u>\$ 105</u>	<u>\$ 453</u>	<u>\$ 66</u>

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Deferred tax assets and deferred tax liabilities consist of the following:

	March 31,	
	2019	2018
	(In thousands)	
Deferred tax assets:		
Tax credits	\$ 4,819	\$ 3,958
Net operating losses	113	104
Stock-based compensation	891	899
Property and equipment	138	268
Other reserves and accruals	776	759
Total deferred tax assets	6,737	5,988
Less valuation allowance	(6,700)	(5,913)
Deferred tax assets, net	37	75
Deferred tax liabilities:		
Unrecognized gains	(2)	—
Total deferred tax liabilities	(2)	—
Net deferred tax asset	\$ 35	\$ 75

The Company currently intends to indefinitely reinvest earnings in operations outside the United States. No provision has been made for state income taxes that might be payable upon remittance of such earnings, nor is it practicable to determine the amount of such potential liability.

The long-term portion of the Company's unrecognized tax benefits at March 31, 2019 and 2018 was \$622,000 and \$619,000, respectively, of which the timing of the resolution is uncertain. As of March 31, 2019 and 2018, \$2.5 million and \$2.1 million, respectively, of unrecognized tax benefits had been recorded as a reduction to net deferred tax assets. As of March 31, 2019, the Company's net deferred tax assets of \$6.7 million are subject to a valuation allowance of \$6.7 million. It is possible, however, that some months or years may elapse before an uncertain position for which the Company has established a reserve is resolved. A reconciliation of unrecognized tax benefits is as follows:

	Year Ended March 31,		
	2019	2018	2017
	(In thousands)		
Unrecognized tax benefits, beginning of period	\$ 2,735	\$ 2,714	\$ 2,055
Additions based on tax positions related to current year	371	520	730
Additions based on tax positions related to prior years	13	—	—
2017 Tax Act and tax rate re-measurement	—	(499)	—
Reductions based on tax positions related to prior years	(17)	—	—
Lapses during the current year applicable to statutes of limitations	—	—	(71)
Unrecognized tax benefits, end of period	\$ 3,102	\$ 2,735	\$ 2,714

The unrecognized tax benefit balance as of March 31, 2019 of \$599,000 would affect the Company's effective tax rate if recognized.

On December 22, 2017, the "Tax Cuts and Jobs Act" ("H.R. 1") was signed into law, significantly impacting several sections of the Internal Revenue Code. Following the enactment of the H.R. 1, the SEC staff issued SAB 118, which provides guidance on accounting for the tax effects of the Tax Act. SAB 118 provides a measurement period that should not extend beyond one year from the H.R. 1 enactment date for companies to complete the accounting under ASC 740. In accordance with SAB 118, the Company must reflect the income tax effects of those aspects of H.R. 1 for which the accounting under ASC 740 is complete. To the extent that the Company's accounting for certain income tax effects of H.R. 1 is incomplete but the Company is able to determine a reasonable

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estimate, the Company must record a provisional estimate in the financial statements. If the Company cannot determine a provisional estimate to be included in the financial statements, it should continue to apply ASC 740 on the basis of the provisions of the tax law that were in effect immediately before the enactment of the H.R. 1.

This new law includes significant changes to the U.S. corporate income tax system, including a permanent reduction in the corporate income tax rate from 35% to 21%, limitations on the deductibility of interest expense and executive compensation and the transition of U.S. international taxation from a worldwide tax system to a territorial tax system. We re-measured certain deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future. The re-measurement of our deferred tax balance of \$1.1 million was offset by application of our valuation allowance. We calculated our best estimate of the impact of H.R. 1 in the fiscal 2018 year-end income tax provision, including the impact of the one-time transition tax, in accordance with our understanding of H.R. 1 and guidance available as of the date of this filing and recorded a tax expense of \$367,000 in the year ended March 31, 2018 related to the transition tax associated with deemed repatriation of foreign earnings. Pursuant to Staff Accounting Bulletin No. 118, adjustments to the provisional amounts recorded by the Company that are identified within a subsequent measurement period of up to one year from the enactment date will be included as an adjustment to tax expense from continuing operations in the period the amounts are determined. During the year ended March 31, 2019, the Company completed its assessment of the impact of H.R. 1 and recorded an immaterial additional liability that is included in Income Taxes Payable in the Consolidated Balance Sheet as of March 31, 2019.

H.R. 1 subjects a U.S. shareholder to tax on global intangible low-taxed income (GILTI) earned by certain foreign subsidiaries. The FASB Staff Q&A, Topic 740, No. 5, Accounting for Global Intangible Low-Taxed Income, states that an entity can make an accounting policy election to either recognize deferred taxes for temporary basis differences expected to reverse as GILTI in future years or provide for the tax expense related to GILTI in the year the tax is incurred. The Company has elected to treat GILTI book-tax differences as a period cost. In addition, the Company has elected to use the incremental cash tax savings approach (with and without method) in determining its U.S. valuation allowance.

At March 31, 2019, due to the Company's valuation allowance in the United States, there was no net income tax effect related to GILTI in the Company's fiscal year ended March 31, 2019.

Management believes that within the next twelve months the Company will have no material reduction in uncertain tax benefits, including interest and penalties, as a result of the lapse of statute of limitations.

The Company's policy is to include interest and penalties related to unrecognized tax benefits within the provision for income taxes in the Consolidated Statements of Operations.

The Company's federal and state net operating loss carryforwards for income tax purposes are approximately \$0 and \$2.5 million, respectively, at March 31, 2019. The Company's state tax net operating loss carryforwards expire beginning in 2034.

The Company's federal and state tax credit carryforwards for income tax purposes are approximately \$2.3 million and \$3.2 million respectively, at March 31, 2019. The Company's federal tax credit carryforwards expire beginning in 2033. The Company's state tax credit carryforwards have no expiration date.

The Company is subject to taxation in the United States and various state and foreign jurisdictions. As of March 31, 2019, the Company maintained a valuation allowance of \$6.7 million for deferred tax assets that are not expected to be utilized in future years. Fiscal years 2013 through 2019 remain open to examination by the federal tax authorities and fiscal years 2012 through 2019 remain open to examination by the state of California.

**NOTE 7—FINANCIAL INSTRUMENTS**

*Fair value measurements*

Authoritative accounting guidance for fair value measurements provides a framework for measuring fair value and related disclosure. The guidance applies to all financial assets and financial liabilities that are measured on a recurring basis. The guidance requires fair value measurement to be classified and disclosed in one of the following three categories:

Level 1: Valuations based on quoted prices in active markets for identical assets and liabilities. The fair value of available-for-sale securities included in the Level 1 category is based on quoted prices that are readily and regularly available in an active market. As of March 31, 2019, the Level 1 category included money market funds of \$4.1 million, which were included in cash and cash equivalents on the Consolidated Balance Sheets.

Level 2: Valuations based on observable inputs (other than Level 1 prices), such as quoted prices for similar assets at the measurement date; quoted prices in markets that are not active; or other inputs that are observable, either directly or indirectly. The fair value of available-for-sale securities included in the Level 2 category is based on the market values obtained from an independent pricing service that were evaluated using pricing models that vary by asset class and may incorporate available trade, bid and other market information and price quotes from well-established independent pricing vendors and broker-dealers. As of March 31, 2019, the Level 2 category included short-term investments of \$19.3 million and long term-investments of \$9.0 million, which were primarily comprised of certificates of deposit and agency securities.

Level 3: Valuations based on inputs that are unobservable and involve management judgment and the reporting entity's own assumptions about market participants and pricing. As of March 31, 2019, the Company's Level 3 financial instruments measured at fair value on the Consolidated Balance Sheets consisted of the contingent consideration liability related to the MikaMonu acquisition. The fair value of the contingent consideration liability was initially determined as of the acquisition date using unobservable inputs. These inputs include the estimated amount and timing of future cash flows, the probability of success (achievement of the various contingent events) and a risk-adjusted discount rate of approximately 14.8% used to adjust the probability-weighted cash flows to their present value. Subsequent to the acquisition date, at each reporting period, the contingent consideration liability is re-measured to fair value with changes recorded in selling, general and administrative expenses in the Consolidated Statements of Operations. The contingent consideration liability is included in other accrued expenses on the Consolidated Balance Sheet at March 31, 2019 and 2018 in the amount of \$3.7 million and \$4.4 million, respectively, and is included in accrued expenses and other liabilities at March 31, 2019 and 2018 in the amount of \$492,000 and \$1.1 million, respectively.

Refer to Note 12, "Acquisition" for more information.

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The fair value of financial assets measured on a recurring basis is as follows (in thousands):

	March 31, 2019	Fair Value Measurements at Reporting Date Using		
		Quoted Prices in Active Markets for Identical Assets and Liabilities (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b>Assets:</b>				
Money market funds	\$ 4,090	\$ 4,090	\$ —	\$ —
Marketable securities	28,343	—	28,343	—
<b>Total</b>	<b>\$ 32,433</b>	<b>\$ 4,090</b>	<b>\$ 28,343</b>	<b>\$ —</b>
<b>Liabilities:</b>				
Contingent consideration	\$ 4,206	\$ —	\$ —	\$ 4,206

	March 31, 2018	Fair Value Measurements at Reporting Date Using		
		Quoted Prices in Active Markets for Identical Assets and Liabilities (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b>Assets:</b>				
Money market funds	\$ 6,788	\$ 6,788	\$ —	\$ —
Marketable securities	26,047	—	26,047	—
<b>Total</b>	<b>\$ 32,835</b>	<b>\$ 6,788</b>	<b>\$ 26,047</b>	<b>\$ —</b>
<b>Liabilities:</b>				
Contingent consideration	\$ 5,514	\$ —	\$ —	\$ 5,514

The following table sets forth the changes in fair value of contingent consideration for the fiscal years ended March 31, 2019, 2018 and 2017, respectively:

	Year Ended March 31,		
	2019	2018	2017
	(In thousands)		
Contingent consideration, beginning of period	\$ 5,514	\$ 6,200	\$ 5,856
Change due to accretion	147	158	161
Re-measurement of contingent consideration	(326)	(466)	183
Payment of contingent consideration	(1,129)	(378)	—
<b>Contingent consideration, end of period</b>	<b>\$ 4,206</b>	<b>\$ 5,514</b>	<b>\$ 6,200</b>

***Short-term and long-term investments***

All of the Company's short-term and long-term investments are classified as available-for-sale. Available-for-sale debt securities with maturities greater than twelve months are classified as long-term investments when they are not intended for use in current operations. Investments in available-for-sale securities are reported at fair value with unrecognized gains (losses), net of tax, as a component of accumulated other comprehensive income (loss) on the Consolidated Balance Sheets. The Company had money market funds of \$4.1 million and \$6.8 million at March 31,

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2019 and March 31, 2018, respectively, included in cash and cash equivalents on the Consolidated Balance Sheets. The Company monitors its investments for impairment periodically and records appropriate reductions in carrying values when the declines are determined to be other-than-temporary.

The following table summarizes the Company's available-for-sale investments:

	<b>March 31, 2019</b>			
	<b>Cost</b>	<b>Gross Unrealized Gains</b>	<b>Gross Unrealized Losses</b>	<b>Fair Value</b>
(In thousands)				
<b>Short-term investments:</b>				
Certificates of deposit	\$ 16,500	\$ 4	(24)	\$ 16,480
Supranational obligations	2,867	—	(1)	2,866
<b>Total short-term investments</b>	<b>\$ 19,367</b>	<b>\$ 4</b>	<b>\$ (25)</b>	<b>\$ 19,346</b>
<b>Long-term investments:</b>				
Certificates of deposit	\$ 6,000	\$ 23	(4)	\$ 6,019
Agency bonds	2,968	11	(1)	2,978
<b>Total long-term investments</b>	<b>\$ 8,968</b>	<b>\$ 34</b>	<b>\$ (5)</b>	<b>\$ 8,997</b>

  

	<b>March 31, 2018</b>			
	<b>Cost</b>	<b>Gross Unrealized Gains</b>	<b>Gross Unrealized Losses</b>	<b>Fair Value</b>
(In thousands)				
<b>Short-term investments:</b>				
Certificates of deposit	\$ 8,750	\$ —	(28)	\$ 8,722
Foreign government obligations	5,428	—	(21)	5,407
Agency bonds	3,996	—	(1)	3,995
<b>Total short-term investments</b>	<b>\$ 18,174</b>	<b>\$ —</b>	<b>\$ (50)</b>	<b>\$ 18,124</b>
<b>Long-term investments:</b>				
Certificates of deposit	\$ 8,000	\$ —	(77)	\$ 7,923
<b>Total long-term investments</b>	<b>\$ 8,000</b>	<b>\$ —</b>	<b>\$ (77)</b>	<b>\$ 7,923</b>

The following table shows the gross unrealized losses and fair value of the Company's investments with unrealized losses aggregated by investment category and length of time that individual securities have been in a continuous loss position as of March 31, 2019 and 2018, respectively.

	<b>March 31, 2019</b>					
	<b>Less Than 12 Months</b>		<b>12 Months or Greater</b>		<b>Total</b>	
	<b>Fair Value</b>	<b>Unrealized Loss</b>	<b>Fair Value</b>	<b>Unrealized Loss</b>	<b>Fair Value</b>	<b>Unrealized Loss</b>
(In thousands)						
Certificates of deposit	\$ 2,998	\$ (2)	\$ 7,974	\$ (26)	\$ 10,972	\$ (28)
Supranational obligations	2,866	(1)	-	-	2,866	(1)
Agency bonds	1,501	(1)	-	-	1,501	(1)
	<b>\$ 7,365</b>	<b>\$ (4)</b>	<b>\$ 7,974</b>	<b>\$ (26)</b>	<b>\$ 15,339</b>	<b>\$ (30)</b>

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	March 31, 2018					
	Less Than 12 Months		12 Months or Greater		Total	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
	(In thousands)					
Certificates of deposit	\$ 10,694	\$ (56)	\$ 5,950	\$ (49)	\$ 16,644	\$ (105)
Agency bonds	3,995	(1)	-	-	3,995	(1)
Foreign government obligations	4,357	(20)	1,050	(1)	5,407	(21)
	<u>\$ 19,046</u>	<u>\$ (77)</u>	<u>\$ 7,000</u>	<u>\$ (50)</u>	<u>\$ 26,046</u>	<u>\$ (127)</u>

The Company's investment portfolio consists of both corporate and governmental securities that have a maximum maturity of three years. All unrealized gains and losses are due to changes in interest rates and bond yields. Subject to normal credit risks, the Company has the ability to realize the full value of all these investments upon maturity.

At March 31, 2019 and 2018, the deferred tax asset (liability) related to unrecognized gains and losses on short-term and long-term investments was (\$2,000) and \$29,000, respectively.

As of March 31, 2019, contractual maturities of the Company's available-for-sale investments were as follows:

	Cost	Fair Value
	(In thousands)	
Maturing within one year	\$ 19,367	\$ 19,346
Maturing in one to three years	8,968	8,997
	<u>\$ 28,335</u>	<u>\$ 28,343</u>

**NOTE 8—COMMITMENTS AND CONTINGENCIES**

*Operating leases*

The Company leases office space under noncancelable operating leases with various expiration dates through April 2022. Rent expense for the years ended March 31, 2019, 2018 and 2017 was \$566,000, \$527,000 and \$504,000, respectively. The terms of the facility leases provide for rental payments on a graduated scale. The Company recognizes rent expense on a straight-line basis over the lease period, and has accrued for rent expense incurred but not paid.

Future minimum lease payments under noncancelable operating leases with remaining lease terms in excess of one year at March 31, 2019 are as follows:

Fiscal Year Ending March 31,	Operating Leases
	(In thousands)
2020	\$ 477
2021	338
2022	83
2023	7
Total	<u>\$ 905</u>

***Royalty obligations***

The Company has license agreements that require it to pay royalties on the sale of products using the licensed technology. Royalty expense for the years ended March 31, 2019, 2018 and 2017 was \$34,000, \$46,000 and \$35,000, respectively, and was included within cost of revenues.

***Indemnification obligations***

The Company is a party to a variety of agreements pursuant to which it may be obligated to indemnify the other party with respect to certain matters. Typically, these obligations arise in the context of contracts entered into by the Company, under which the Company customarily agrees to hold the other party harmless against losses arising from a breach of representations and covenants related to such matters as title to assets sold and certain intellectual property rights. In each of these circumstances, payment by the Company is conditioned on the other party making a claim pursuant to the procedures specified in the particular contract, which procedures typically allow the Company to challenge the other party's claims. Further, the Company's obligations under these agreements may be limited in terms of time and/or amount, and in some instances, the Company may have recourse against third parties for certain payments made by it under these agreements.

It is not possible to predict the maximum potential amount of future payments under these or similar agreements due to the conditional nature of the Company's obligations and the unique facts and circumstances involved in each particular agreement. Historically, payments made by the Company under these agreements have not had a material effect on its business, financial condition, cash flows or results of operations. The Company believes that if it were to incur a loss in any of these matters, such loss should not have a material effect on its business, financial condition, cash flows or results of operations.

***Product warranties***

The Company warrants its products to be free of defects generally for a period of three years. The Company estimates its warranty costs based on historical warranty claim experience and includes such costs in cost of revenues. Warranty costs and the accrued warranty liability were not material as of March 31, 2019 and 2018 and for the years ended March 31, 2019, 2018 or 2017.

**NOTE 9—COMMON STOCK**

The Company's Certificate of Incorporation, as amended, authorizes the Company to issue 150,000,000 shares of \$0.001 par value common stock.

On August 6, 2014, the Company completed a modified "Dutch auction" self-tender offer to repurchase for cash shares of its common stock. The Company accepted for purchase and retirement an aggregate of 3,846,153 shares of its common stock at a final purchase price of \$6.50 per share, for an aggregate cost of approximately \$25 million, excluding fees and expenses related to the tender offer.

The Company's board of directors has authorized the repurchase, at management's discretion, of shares of its common stock. Under the repurchase program, the Company may repurchase shares from time to time on the open market or in private transactions. The specific timing and amount of the repurchases will be dependent on market conditions, securities law limitations and other factors. The repurchase program may be suspended or terminated at any time without prior notice. Through March 31, 2019, including the shares purchased in the modified "Dutch Auction" self-tender offer, the Company has repurchased and retired a total of 12,004,779 shares at an average cost of \$5.06 per share for a total cost of \$60.7 million. At March 31, 2019, management was authorized to repurchase additional shares with a value of up to \$4.3 million under the repurchase program.



**NOTE 10—STOCK-BASED COMPENSATION**

***The 2007 Equity Incentive Plan***

In January 2007, the Company's board of directors approved the 2007 Equity Incentive Plan, (the "2007 Plan"), which was subsequently approved by the Company's stockholders in March 2007. A total of 3,000,000 shares of common stock were authorized and reserved for issuance under the 2007 Plan. This reserve automatically increased on April 1 of each year through 2017 by an amount equal to the smaller of (a) five percent of the number of shares of common stock issued and outstanding on the immediately preceding March 31, or (b) a lesser amount determined by the board of directors. As described below, the 2007 Plan was terminated in August 2016 and no further awards may be granted pursuant to the 2007 Plan. In the event of a stock split or other change in the Company's capital structure, appropriate adjustments will be made in the number of outstanding awards to prevent dilution or enlargement of participants' rights.

Awards could be granted under the 2007 Plan to the Company's employees, including officers, directors, or consultants or those of any present or future parent or subsidiary corporation or other affiliated entity. Options granted to non-officer employees generally vest at the rate of 25% on the first anniversary and subsequent anniversaries of the date of grant, while grants to officers vest in full four years after the anniversary date of the officer's employment that is closest to the date of grant.

In the event of a change in control as described in the 2007 Plan, the acquiring or successor entity may assume or continue all or any awards outstanding under the 2007 Plan or substitute substantially equivalent awards. Any awards which are not assumed or continued in connection with a change in control or exercised or settled prior to the change in control will terminate effective as of the time of the change in control. The administrator may provide for the acceleration of vesting of any or all outstanding awards upon such terms and to such extent as it determines, except that the vesting of all nonemployee director awards will automatically be accelerated in full. The 2007 Plan also authorizes the administrator, in its discretion and without the consent of any participant, to cancel each or any outstanding award denominated in shares upon a change in control in exchange for a payment to the participant with respect to each vested share subject to the cancelled award of an amount equal to the excess of the consideration to be paid per share of common stock in the change in control transaction over the exercise price per share, if any, under the award.

***The 2016 Equity Incentive Plan***

In June 2016, the Company's board of directors approved the 2016 Equity Incentive Plan, (the "2016 Plan"), which was subsequently approved by the Company's stockholders in August 2016. In connection with the stockholders' approval of the 2016 Plan, 6,000,000 shares available for future award under the 2007 Plan were transferred to the 2016 Plan, 705,699 shares available for grant under the 2007 plan were canceled and the 2007 Plan was terminated. The Company granted options under the 2007 Plan until August 2016, although it continues to govern the terms of options that remain outstanding under the 2007 Plan.

Appropriate and proportionate adjustments will be made to the number of shares authorized and other numerical limits in the 2016 Plan and to outstanding awards in the event of any change in the Company's common stock through merger, consolidation, reorganization, reincorporation, recapitalization, reclassification, stock dividend, stock split, reverse stock split, split-up, split-off, spin-off, combination of shares, exchange of shares or similar change in the Company's capital structure, or if the Company makes a distribution to its stockholders in a form other than common stock (excluding regular, periodic cash dividends) that has a material effect on the fair market value of the Company's common stock. In such circumstances, the administrator also has the discretion under the 2016 Plan to adjust other terms of outstanding awards as it deems appropriate.

If any award granted under the 2016 Plan expires or otherwise terminates for any reason without having been exercised or settled in full, or if shares subject to forfeiture or repurchase are forfeited or repurchased by the

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Company for not more than the participant's purchase price, any such shares reacquired or subject to a terminated award will again become available for issuance under the 2016 Plan. Shares will not be treated as having been issued under the 2016 Plan and will therefore not reduce the number of shares available for issuance to the extent an award is settled in cash or to the extent that shares are withheld or reacquired by the Company in satisfaction of a tax withholding obligation. Upon the exercise of a stock appreciation right, tender of shares in payment of an option's exercise price or net-exercise of an option, the number of shares available under the 2016 Plan will be reduced by number of shares actually issued in settlement of the award.

To enable compensation provided in connection with certain types of awards intended to qualify as "performance-based" within the meaning of Section 162(m) of the Internal Revenue Code, the 2016 Plan establishes limits on the maximum aggregate number of shares or dollar value for which awards may be granted to an employee in any fiscal year, as follows:

- No more than 300,000 shares subject to stock options and stock appreciation rights.
- No more than 100,000 shares subject to restricted stock and restricted stock unit awards.
- For each full fiscal year of the Company contained in the performance period of performance shares or performance unit awards, no more than 50,000 shares subject to performance share awards or more than \$500,000 subject to performance unit awards.
- For each full fiscal year of the Company contained in the performance period of cash-based or other stock-based awards, no more than \$500,000 subject to cash-based awards or more than 50,000 shares subject to other stock-based awards.

Awards may be granted under the 2016 Plan to the Company's employees, including officers, directors and consultants or those of any present or future parent or subsidiary corporation or other affiliated entity of the Company. To date, options granted to non-officer employees generally vest 25% on the first anniversary and subsequent anniversaries of the date of grant, while grants to officers vest in full four years after the anniversary date of the officer's employment that is closest to the date of grant.

While the Company may grant incentive stock options only to employees, the Company may grant nonstatutory stock options, stock appreciation rights, restricted stock and stock units, performance shares and units, other stock-based awards and cash-based awards to any eligible participant. Non-employee director awards may be granted only to members of the Company's board of directors who, at the time of grant, are not employees.

Only members of the board of directors who are not employees at the time of grant are eligible to participate in the nonemployee director awards component of the 2016 Plan. The board or the compensation committee shall set the amount and type of nonemployee director awards to be awarded on a periodic, non-discriminatory basis. Nonemployee director awards may be granted in the form of NSOs, stock appreciation rights, restricted stock awards and restricted stock unit awards. Subject to adjustment for changes in the Company's capital structure, no nonemployee director may be awarded, in any fiscal year, one or more nonemployee director awards for more than a number of shares determined by dividing \$150,000 by the fair market value of a share of the Company's stock determined on the last trading day immediately preceding the date on which the applicable nonemployee award is granted.

The 2016 Plan provides that, without the approval of a majority of the votes cast in person or by proxy at a meeting of the Company's stockholders, the administrator may not provide for any of the following with respect to underwater options or stock appreciation rights: (1) either the cancellation of such outstanding options or stock appreciation rights in exchange for the grant of new options or stock appreciation rights at a lower exercise price or the amendment of outstanding options or stock appreciation rights to reduce the exercise price, (2) the issuance of

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new full value awards in exchange for the cancellation of such outstanding options or stock appreciation rights, or (3) the cancellation of such outstanding options or stock appreciation rights in exchange for payments in cash.

In the event of a change in control as described in the 2016 Plan, the surviving, continuing, successor or purchasing entity or its parent may, without the consent of any participant, either assume or continue outstanding awards or substitute substantially equivalent awards for its stock. If so determined by the Committee, stock-based awards will be deemed assumed if, for each share subject to the award prior to the change in control, its holder is given the right to receive the same amount of consideration that a stockholder would receive as a result of the change in control. Any awards which are not assumed or continued in connection with a change in control or exercised or settled prior to the change in control will terminate effective as of the time of the Change in Control. The administrator may provide for the acceleration of vesting or settlement of any or all outstanding awards upon such terms and to such extent as it determines, except that the vesting of all nonemployee director awards will automatically be accelerated in full. The 2016 Plan also authorizes the administrator, in its discretion and without the consent of any participant, to cancel each or any outstanding award denominated in shares of stock upon a change in control in exchange for a payment to the participant with respect each vested share (and each unvested share if so determined by the administrator) subject to the cancelled award of an amount equal to the excess of the consideration to be paid per share of common stock in the change in control transaction over the exercise or purchase price per share, if any, under the award.

***The 2007 Employee Stock Purchase Plan***

In January 2007, the board of directors approved the 2007 Employee Stock Purchase Plan (the “2007 Purchase Plan”) which was subsequently approved by the Company’s stockholders in March 2007. A total of 500,000 shares of the Company’s common stock was authorized and reserved for sale under the 2007 Purchase Plan. In addition, the 2007 Purchase Plan provides for an automatic annual increase in the number of shares available for issuance under the plan on April 1 of each year beginning in 2008 and continuing through and including April 1, 2017 equal to the lesser of (1) one percent of the number of issued and outstanding shares of common stock on the immediately preceding March 31, (2) 250,000 shares or (3) a number of shares as the board of directors may determine. Appropriate adjustments will be made in the number of authorized shares and in outstanding purchase rights to prevent dilution or enlargement of participants’ rights in the event of a stock split or other change in our capital structure. Shares subject to purchase rights that expire or are canceled will again become available for issuance under the 2007 Purchase Plan.

The Company’s employees and employees of any parent or subsidiary corporation designated by the administrator will be eligible to participate in the 2007 Purchase Plan if they are customarily employed by us for more than 20 hours per week and more than five months in any calendar year. However, an employee may not be granted a right to purchase stock under the 2007 Purchase Plan if: (1) the employee immediately after such grant would own stock possessing 5% or more of the total combined voting power or value of all classes of our capital stock or of any parent or subsidiary corporation, or (2) the employee’s rights to purchase stock under all of our employee stock purchase plans would accrue at a rate that exceeds \$25,000 in value for each calendar year of participation in such plans.

The 2007 Purchase Plan is designed to be implemented through a series of sequential offering periods, generally six (6) months in duration beginning on the first trading day on or after May 1 and November 1 of each year. The administrator is authorized to establish additional or alternative sequential or overlapping offering periods and offering periods having a different duration or different starting or ending dates, provided that no offering period may have a duration exceeding 27 months.

Amounts accumulated for each participant under the 2007 Purchase Plan are used to purchase shares of the Company’s common stock at the end of each offering period at a price generally equal to 85% of the lower of the fair market value of our common stock at the beginning of an offering period or at the end of the offering period. Prior to commencement of an offering period, the administrator is authorized to reduce, but not increase, this

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purchase price discount for that offering period, or, under circumstances described in the 2007 Purchase Plan, during that offering period. The maximum number of shares a participant may purchase in any six-month offering period is the lesser of (i) that number of shares determined by multiplying (x) 1,000 shares by (y) the number of months (rounded to the nearest whole month) in the offering period and rounding to the nearest whole share or (ii) that number of whole shares determined by dividing (x) the product of \$2,083.33 and the number of months (rounded to the nearest whole month) in the offering period and rounding to the nearest whole dollar by (y) the fair market value of a share of our common stock at the beginning of the offering period. Prior to the beginning of any offering period, the administrator may alter the maximum number of shares that may be purchased by any participant during the offering period or specify a maximum aggregate number of shares that may be purchased by all participants in the offering period. If insufficient shares remain available under the plan to permit all participants to purchase the number of shares to which they would otherwise be entitled, the administrator will make a pro rata allocation of the available shares. Any amounts withheld from participants' compensation in excess of the amounts used to purchase shares will be refunded, without interest.

In the event of a change in control, an acquiring or successor corporation may assume our rights and obligations under the 2007 Purchase Plan. If the acquiring or successor corporation does not assume such rights and obligations, then the purchase date of the offering periods then in progress will be accelerated to a date prior to the change in control.

The following table summarizes stock option activities:

	Shares Available for Grant	Number of Shares Underlying Options Outstanding	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price	Intrinsic Value
Balance at March 31, 2016	6,432,063	7,625,705		\$ 5.08	
Options reserved	1,085,818	—		—	
Terminated plan	(705,699)	—		—	
Granted	(1,362,798)	1,362,798		\$ 5.14	
Exercised	—	(391,039)		\$ 3.96	\$ 855,160
Forfeited	14,801	(974,634)		\$ 5.53	
Balance at March 31, 2017	5,464,185	7,622,830		\$ 5.09	
Granted	(1,029,684)	1,029,684		\$ 7.28	
Exercised	—	(678,897)		\$ 4.22	\$ 2,460,812
Forfeited	9,800	(99,350)		\$ 5.06	
Balance at March 31, 2018	4,444,301	7,874,267		\$ 5.45	
Granted	(1,097,893)	1,097,893		\$ 6.74	
Exercised	—	(823,456)		\$ 4.00	\$ 2,782,691
Forfeited	80,140	(131,675)		\$ 5.60	
Balance at March 31, 2019	<u>3,426,548</u>	<u>8,017,029</u>	5.57	\$ 5.77	
Options vested and exercisable		<u>4,905,367</u>	3.89	\$ 5.50	\$ 11,281,978
Options vested and expected to vest		<u>7,943,690</u>	5.54	\$ 5.76	\$ 16,165,270

The options outstanding and by exercise price at March 31, 2019 are as follows:

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Exercise Price	Number of Shares Underlying Options Outstanding	Options Outstanding		Options Exercisable		
		Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (Years)	Number Vested and Exercisable	Weighted Average Exercise Price	
\$ 3.38	- 4.00	864,046	\$ 3.63	3.04	771,339	\$ 3.66
\$ 4.17	- 4.90	806,788	\$ 4.55	3.53	789,463	\$ 4.55
\$ 4.92	- 4.99	1,181,766	\$ 4.98	6.64	273,940	\$ 4.97
\$ 5.13	- 5.59	992,004	\$ 5.31	5.56	906,254	\$ 5.32
\$ 5.69	- 6.16	882,372	\$ 5.93	5.65	543,016	\$ 5.89
\$ 6.24	- 6.70	1,422,638	\$ 6.58	6.08	732,745	\$ 6.48
\$ 6.82	- 7.26	1,362,255	\$ 7.04	6.16	692,985	\$ 6.91
\$ 7.40	- 7.88	269,720	\$ 7.70	9.15	55,518	\$ 7.50
\$ 8.09	-	126,860	\$ 8.09	8.83	31,527	\$ 8.09
\$ 9.20	-	108,580	\$ 9.20	1.81	108,580	\$ 9.20
		<u>8,017,029</u>	\$ 5.77	5.57	<u>4,905,367</u>	\$ 5.50

**Stock-based compensation**

The Company recognized \$2.3 million, \$2.1 million and \$1.9 million of stock-based compensation expense for the years ended March 31, 2019, 2018 and 2017, respectively, as follows:

	Year Ended March 31,		
	2019	2018	2017
	(In thousands)		
Cost of revenues	\$ 234	\$ 259	\$ 282
Research and development	1,310	1,141	980
Selling, general and administrative	722	670	615
Total	<u>\$ 2,266</u>	<u>\$ 2,070</u>	<u>\$ 1,877</u>

Stock-based compensation expense in the years ended March 31, 2019, 2018 and 2017 included \$211,000, \$207,000 and \$150,000, respectively, related to the Company's Employee Stock Purchase Plan.

No tax benefit was recognized in either fiscal 2019 or fiscal 2018 due to a full valuation allowance. There were no windfall tax benefits realized from exercised stock options recognized in fiscal 2019 or fiscal 2018. Compensation cost capitalized within inventory at March 31, 2019 and 2018 was not material. As of March 31, 2019, the Company's total unrecognized compensation cost was \$4.5 million, which will be recognized over the

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weighted average period of 1.94 years. The Company calculated the fair value of stock based awards in the periods presented using the Black-Scholes option pricing model and the following weighted average assumptions:

	Year Ended March 31,					
	2019		2018		2017	
<b>Stock Option Plans:</b>						
Risk-free interest rate	2.53 - 2.91 %	1.84 - 2.49 %	1.12 - 1.95 %			
Expected life (in years)	5.00	5.00	5.00			
Volatility	35.6 - 37.3 %	35.5 - 36.5 %	33.3 - 35.4 %			
Dividend yield	— %	— %	— %			
<b>Employee Stock Purchase Plan:</b>						
Risk-free interest rate	2.09 - 2.5 %	1.04 - 1.42 %	0.38 - 0.45 %			
Expected life (in years)	0.50	0.50	0.50			
Volatility	32.6 - 37.7 %	38.8 - 51.1 %	30.8 - 39.6 %			
Dividend yield	— %	— %	— %			

The weighted average fair value of options granted during the years ended March 31, 2019, 2018 and 2017 was \$2.44, \$2.54 and \$1.66, respectively.

**NOTE 11—SEGMENT AND GEOGRAPHIC INFORMATION**

Based on its operating management and financial reporting structure, the Company has determined that it has one reportable business segment: the design, development and sale of integrated circuits.

The following is a summary of net revenues by geographic area based on the location to which product is shipped:

	Year Ended March 31,		
	2019	2018	2017
	(In thousands)		
United States	\$ 19,327	\$ 20,690	\$ 19,708
China	4,458	5,520	9,364
Singapore	7,592	6,878	9,475
Netherlands	11,093	4,375	4,728
Germany	7,478	3,769	3,226
Rest of the world	1,538	1,411	1,679
	<u>\$ 51,486</u>	<u>\$ 42,643</u>	<u>\$ 48,180</u>

All sales are denominated in United States dollars.

The locations and net book value of long-lived assets are as follows:

	March 31,	
	2019	2018
	(In thousands)	
United States	\$ 7,707	\$ 6,576
Taiwan	854	1,443
Israel	440	153
	<u>\$ 9,001</u>	<u>\$ 8,172</u>

**NOTE 12—ACQUISITION**

On November 23, 2015, the Company acquired all of the outstanding capital stock of privately held MikaMonu Group Ltd. (“MikaMonu”), a development-stage, Israel-based company that specializes in in-place associative computing for markets including big data, computer vision and cyber security. MikaMonu, located in Tel Aviv, held 12 United States patents and a number of pending patent applications.

The acquisition was accounted for as a purchase under authoritative guidance for business combinations. The purchase price of the acquisition was allocated to the intangible assets acquired, with the excess of the purchase price over the fair value of assets acquired recorded as goodwill. The Company performs a goodwill impairment test in February of each fiscal year.

***Consideration***

Under the terms of the acquisition agreement, the Company paid the former MikaMonu shareholders initial cash consideration of approximately \$4.4 million at the closing on November 23, 2015. In addition, \$484,000 was deposited in escrow to provide a fund for potential future indemnification claims by the Company. The majority of this escrow deposit, or \$479,000, was paid to the former MikaMonu shareholders in May 2017.

The Company is also required to pay the former MikaMonu shareholders future contingent consideration consisting of retention payments and “earnout” payments, as described below.

The Company will make cash retention payments of up to an additional \$2.5 million to the three former MikaMonu shareholders in installments over a four-year period, conditioned on the continued employment of Dr. Avidan Akerib, MikaMonu’s co-founder and chief technologist. The retention amount of \$2.5 million has been deposited in escrow. Of this amount, \$1.0 million is included in prepaid expenses and other current assets on the Consolidated Balance Sheet at March 31, 2019 and \$743,000 and \$750,000 was paid to the former MikaMonu shareholders during the quarters ended December 31, 2017 and 2018, respectively.

The Company will also make “earnout” payments to the former MikaMonu shareholders in cash or shares of the Company’s common stock, at the Company’s discretion, during a period of up to ten years following the closing if certain product development milestones and revenue targets for products based on the MikaMonu technology are achieved. Earnout amounts of \$750,000 were paid in the fiscal year ended March 31, 2019 based on the achievement of certain product development milestones. Additional earnout amounts of \$2.8 million and \$4.0 million will be payable if certain revenue milestones are achieved by January 1, 2021 and January 1, 2022, respectively; and additional payments, up to a maximum of \$30.0 million, equal to 5% of net revenues from the sale of qualifying products in excess of certain thresholds, will be made quarterly through December 31, 2025.

The portion of the retention payment contingently payable to Dr. Akerib (approximately \$1.2 million) is being recorded as compensation expense over the period that his services are provided to the Company. The portion of the retention payment contingently payable to the other former MikaMonu shareholders (approximately \$1.3 million) plus the maximum amount of the potential earnout payments totals approximately \$38.8 million. The Company determined that the fair value of this contingent consideration liability was \$5.8 million at the acquisition date. The contingent consideration liability is included in other accrued expenses on the Consolidated Balance Sheet at March 31, 2019 and 2018 in the amount of \$3.7 million and \$4.4 million, respectively, and is included in accrued expenses and other liabilities at March 31, 2019 and 2018 in the amount of \$492,000 and \$1.1 million, respectively.

The fair value of the contingent consideration liability was initially determined as of the acquisition date using unobservable inputs. These inputs include the estimated amount and timing of future cash flows, the probability of success (achievement of the various contingent events) and a risk-adjusted discount rate of approximately 14.8% used to adjust the probability-weighted cash flows to their present value. Subsequent to the acquisition date, at each reporting period, the contingent consideration liability is re-measured to fair value with

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changes recorded in selling, general and administrative expenses in the Consolidated Statements of Operations. Re-measurement of the contingent consideration liability resulted in an increase (reduction) in fair value for the years ended March 31, 2019, 2018 and 2017 of (\$326,000), (\$466,000) and \$182,000, respectively.

**NOTE 13—EMPLOYEE BENEFIT PLANS**

The Company provides a defined contribution retirement plan (the “Retirement Plan”), which qualifies under Section 401(k) of the Internal Revenue Code of 1986. The Retirement Plan covers essentially all United States employees. Eligible employees may make contributions to the Retirement Plan up to 15% of their annual compensation, but no greater than the annual IRS limitation for any plan year. The Retirement Plan does not provide for Company contributions.

The Company provides a defined contribution retirement plan (the “Taiwan Pension Plan”) that covers essentially all of its employees located in Taiwan. The Company makes contributions to the Taiwan Pension Plan equal to 6% of eligible compensation and employees can make voluntary contributions of up to 6% of eligible compensation. All contributions are fully vested.

The Company provides a defined contribution retirement plan (the “Pension Plan”) that covers essentially all of its employees located in Israel. Eligible employees may make contributions to the Pension Plan up to 6% of eligible compensation, and the Company contributes up to 15.83% of eligible compensation. All contributions are fully vested.

**NOTE 14 —QUARTERLY FINANCIAL DATA (Unaudited)**

	Three Months Ended			
	June 30, 2018	September 30, 2018	December 31, 2018	March 31, 2019
	(In thousands, except per share amounts)			
Consolidated Statement of Operations Data:				
Net revenues	\$ 11,266	\$ 12,832	\$ 14,702	\$ 12,686
Gross profit	\$ 5,788	\$ 8,031	\$ 10,039	\$ 7,770
Net income (loss)	\$ (1,646)	\$ (351)	\$ 2,262	\$ (102)
Net Income (loss) per common share—Basic	\$ (0.08)	\$ (0.02)	\$ 0.10	\$ —
Net Income (loss) per common share—Diluted	\$ (0.08)	\$ (0.02)	\$ 0.10	\$ —

	Three Months Ended			
	June 30, 2017	September 30, 2017	December 31, 2017	March 31, 2018
	(In thousands, except per share amounts)			
Consolidated Statement of Operations Data:				
Net revenues	\$ 10,687	\$ 9,647	\$ 11,118	\$ 11,191
Gross profit	\$ 5,604	\$ 4,858	\$ 5,675	\$ 6,289
Net income (loss)	\$ (1,512)	\$ (1,740)	\$ (1,528)	\$ 265
Net income (loss) per common share—Basic	\$ (0.07)	\$ (0.08)	\$ (0.07)	\$ 0.01
Net income (loss) per common share—Diluted	\$ (0.07)	\$ (0.08)	\$ (0.07)	\$ 0.01

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

None.

**Item 9A. Controls and Procedures****Management’s Evaluation of Disclosure Controls and Procedures**

Based on their evaluation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) as of March 31, 2019, our Chief Executive Officer



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and Chief Financial Officer have concluded that our disclosure controls and procedures were effective as of the end of the period covered by this report for the purpose of ensuring that the information required to be disclosed by us in the reports we file or submit under the Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that the information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, in order to allow timely decisions regarding required disclosure.

***Changes in Internal Control over Financial Reporting***

There were no changes in our internal control over financial reporting that occurred during the quarter ended March 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal controls will prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within GSI Technology, have been detected.

***Management's Report on Internal Control over Financial Reporting***

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) of the Exchange Act. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements and can only provide reasonable assurance with respect to financial statement preparation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

We assessed the effectiveness of our internal control over financial reporting as of March 31, 2019. In making this assessment, we used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in *Internal Control—Integrated Framework (2013)*. Based on our assessment using those criteria, our management (including our Chief Executive Officer and Chief Financial Officer) concluded that our internal control over financial reporting was effective as of March 31, 2019.

The effectiveness of the Company's internal control over financial reporting as of March 31, 2019 has been audited by BDO USA, LLP, an independent registered public accounting firm, as stated in their report which appears on page 46 of this Annual Report on Form 10-K.

**Item 9B. Other Information**

Not applicable.

### PART III

The SEC allows us to include information required in this report by referring to other documents or reports we have already filed or will soon be filing. This is called “incorporation by reference.” We intend to file our definitive proxy statement for our 2019 annual meeting of stockholders (the “Proxy Statement”) pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this report, and certain information therein is incorporated in this report by reference.

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

The information required by this item with respect to executive officers is set forth in Part I of this Annual Report on Form 10-K and the remaining information required by this item is incorporated by reference from the sections entitled “Proposal No. 1 - Election of Directors”, “Corporate Governance” and “Section 16(a) Beneficial Ownership Reporting Compliance” to be included in the Proxy Statement.

**Item 11. *Executive Compensation***

The information required by this item is incorporated by reference from the section entitled “Executive Compensation” to be included in the Proxy Statement.

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

The information required by this item is incorporated by reference from the sections entitled “Principal Stockholders and Stock Ownership by Management” and “Executive Compensation – Equity Compensation Plan Information” to be included in the Proxy Statement.

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

The information required by this item is incorporated by reference from the section entitled “Related Person Transactions” and “Corporate Governance—Director Independence” to be included in the Proxy Statement.

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

The information required by this item is incorporated by reference from the section entitled “Proposal No. 2 - Ratification of Appointment of Independent Registered Public Accounting Firm” to be included in the Proxy Statement.

**PART IV**

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

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

**1. Financial Statements**

	<u>Page</u>
<a href="#">Reports of Independent Registered Public Accounting Firms</a>	45
<a href="#">Consolidated Balance Sheets As of March 31, 2019 and 2018</a>	48
<a href="#">Consolidated Statements of Operations For the Three Years Ended March 31, 2019, 2018 and 2017</a>	49
<a href="#">Consolidated Statements of Comprehensive Income (Loss) For the Three Years Ended March 31, 2019, 2018 and 2017</a>	50
<a href="#">Consolidated Statements of Stockholders' Equity For the Three Years Ended March 31, 2019, 2018 and 2017</a>	51
<a href="#">Consolidated Statements of Cash Flows For the Three Years Ended March 31, 2019, 2018 and 2017</a>	52
<a href="#">Notes to Consolidated Financial Statements</a>	53

**2. Financial Statement Schedules**

Schedules not listed above have been omitted because the information required to be set forth therein is not applicable, is not material or is shown in the consolidated financial statements or the notes thereto.

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**3. Exhibits:**

The following exhibits are filed herewith:

<b>Exhibit Number</b>	<b>Name of Document</b>
3.1	<a href="#">Restated Certificate of Incorporation of Registrant (Incorporated by reference to Exhibit 3.3 to Registrant's Registration Statement on Form S-1 (File No. 333-139885) filed on February 16, 2007)</a>
3.2	<a href="#">Bylaws of Registrant (Incorporated by reference to Exhibit 3.4 to Registrant's Registration Statement on Form S-1 (File No. 333-139885) filed on February 16, 2007)</a>
10.1	<a href="#">Form of Indemnity Agreement between Registrant and Registrant's directors and officers (Incorporated by reference to identically-numbered exhibit to Registrant's Registration Statement on Form S-1 (File No. 333-139885) filed on January 10, 2007)</a>
10.2	(1) <a href="#">2000 Stock Option Plan and form of Stock Option Agreement (Incorporated by reference to identically-numbered exhibit to Registrant's Registration Statement on Form S-1 (File No. 333-139885) filed on February 16, 2007)</a>
10.3	(1) <a href="#">2007 Equity Incentive Plan, as amended (Incorporated by reference to Appendix A to Registrant's definitive Proxy Statement filed on July 21, 2011)</a>
10.4	(1) <a href="#">2007 Employee Stock Purchase Plan and form of Subscription Agreement (Incorporated by reference to identically-numbered exhibit to Registrant's Registration Statement on Form S-1 (File No. 333-139885) filed on February 16, 2007)</a>
10.5	(1) <a href="#">Form of Notice of Grant of Stock Option (U.S. Participant) (Incorporated by reference to Exhibit 99.1 to Registrant's Current Report on Form 8-K filed on June 4, 2007)</a>
10.6	(1) <a href="#">Form of Notice of Grant of Stock Option (Non-U.S. Participant) (Incorporated by reference to Exhibit 99.2 to Registrant's Current Report on Form 8-K filed on June 4, 2007)</a>
10.7	(1) <a href="#">Form of Stock Option Agreement (U.S. Participant) (Incorporated by reference to Exhibit 99.3 to Registrant's Current Report on Form 8-K filed on June 4, 2007)</a>
10.8	(1) <a href="#">Form of Stock Option Agreement (Non-U.S. Participant) (Incorporated by reference to Exhibit 99.4 to Registrant's Current Report on Form 8-K filed on June 4, 2007)</a>
10.9	<a href="#">Intellectual Property Agreement dated August 28, 2009 between GSI Technology, Inc. and Sony Electronics Inc. (Incorporated by reference to Exhibit 10.2 to Registrant's Quarterly Report on Form 10-Q filed on November 16, 2009)</a>
10.10	(2) <a href="#">Master Purchase Agreement dated August 31, 2011 between Registrant and Cisco Systems, Inc. (Incorporated by reference to Exhibit 10.1 to Registrant's Quarterly Report on Form 10-Q filed on November 4, 2011)</a>
10.11	(2) <a href="#">Master Purchase Agreement dated August 31, 2011 between Registrant and Cisco Systems International B.V. (Incorporated by reference to Exhibit 10.2 to Registrant's Quarterly Report on Form 10-Q filed on November 4, 2011)</a>
10.12	(1) <a href="#">GSI Technology, Inc. 2016 Variable Compensation Plan (Incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K filed on August 3, 2015)</a>
10.13	<a href="#">Stock Purchase Agreement dated November 23, 2015 among GSI Technology, Inc., GSI Technology Holdings, Inc. and MikaMonu Group Ltd. (Incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K filed on February 4, 2016)</a>
10.14	(1) <a href="#">GSI Technology, Inc. 2017 Variable Compensation Plan (Incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K filed on July 5, 2016)</a>
10.15	(1) <a href="#">GSI Technology, Inc. 2016 Equity Incentive Plan (Incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K/A filed on September 2, 2016)</a>
10.16	(1) <a href="#">Form of Notice of Grant of Stock Option (U.S. Participant) under 2016 Equity Incentive Plan (Incorporated by reference to Exhibit 10.2 to Registrant's Form 10-Q filed on November 4, 2016)</a>
10.17	(1) <a href="#">Form of Notice of Grant of Stock Option (Non-U.S. Participant) under 2016 Equity Incentive Plan (Incorporated by reference to Exhibit 10.3 to Registrant's Form 10-Q filed on November 4, 2016)</a>

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10.18	(1)	<a href="#">Form of Stock Option Agreement (U.S. Participant) under 2016 Equity Incentive Plan (Incorporated by reference to Exhibit 10.4 to Registrant's Form 10-Q filed on November 4, 2016)</a>
10.19	(1)	<a href="#">Form of Stock Option Agreement (Non-U.S. Participant) under 2016 Equity Incentive Plan (Incorporated by reference to Exhibit 10.5 to Registrant's Form 10-Q filed on November 4, 2016)</a>
10.20	(1)	<a href="#">GSI Technology, Inc. 2018 Variable Compensation Plan (Incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K filed on June 1, 2017)</a>
10.21	(1)	<a href="#">GSI Technology, Inc. Executive Retention and Severance Plan (Incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K filed on October 3, 2014)</a>
10.22	(1)	<a href="#">First Amendment to the GSI Technology, Inc. Executive Retention and Severance Plan dated August 29, 2017 (Incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K filed on August 31, 2018)</a>
10.23		<a href="#">Factory Lease Agreement for No. 1, 6th Floor, 30 Tai-Yuan Street, Chu-Pei City, Taiwan dated August 31, 2017 (Incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K filed on September 27, 2017)</a>
10.24	(1)	<a href="#">GSI Technology, Inc. 2019 Variable Compensation Plan (Incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K filed on May 31, 2018)</a>
10.25	(1)	<a href="#">GSI Technology, Inc. 2020 Variable Compensation Plan (Incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K filed on June 12, 2019)</a>
16.1		<a href="#">Letter from PricewaterhouseCoopers LLP dated September 14, 2017 (Incorporated by reference to Exhibit 16.1 to Registrant's Current Report on Form 8-K filed on September 14, 2017)</a>
21.1		<a href="#">List of Subsidiaries</a>
23.1		<a href="#">Consent of Independent Registered Public Accounting Firm – BDO USA, LLP</a>
23.2		<a href="#">Consent of Independent Registered Public Accounting Firm – PricewaterhouseCoopers LLP</a>
24.1		<a href="#">Power of Attorney (Incorporated by reference to the signature page of this Annual Report on Form 10-K)</a>
31.1		<a href="#">Certification of Lee-Lean Shu, President and Chief Executive Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</a>
31.2		<a href="#">Certification of Douglas Schirle, Chief Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</a>
32.1		<a href="#">Certification of Lee-Lean Shu, President and Chief Executive Officer, and Douglas Schirle, Chief Financial Officer, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</a>
101.INS		XBRL Instance Document
101.SCH		XBRL Taxonomy Extension Schema Document
101.CAL		XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF		XBRL Taxonomy Extension Definition Linkbase Document
101.LAB		XBRL Taxonomy Extension Label Linkbase Document
101.PRE		XBRL Taxonomy Extension Presentation Linkbase Document

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- (1) Compensatory plan or management contract.
  - (2) This exhibit has been filed separately with the Commission pursuant to an application for confidential treatment which has been granted by the Commission. The confidential portions of this exhibit have been omitted and marked by asterisks.



**POWER OF ATTORNEY**

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Lee-Lean Shu and Robert Yau, jointly and severally, his attorneys-in-fact, each with the power of substitution, for him in any and all capacities, to sign any amendments to this Annual Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ LEE-LEAN SHU</u> Lee-Lean Shu	President, Chief Executive Officer and Chairman <i>(Principal Executive Officer)</i>	June 13, 2019
<u>/s/ DOUGLAS M. SCHIRLE</u> Douglas M. Schirle	Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i>	June 13, 2019
<u>/s/ ROBERT YAU</u> Robert Yau	Vice President, Engineering, Secretary and Director	June 13, 2019
<u>/s/ JACK A. BRADLEY</u> Jack A. Bradley	Director	June 13, 2019
<u>/s/ E. THOMAS HART</u> E. Thomas Hart	Director	June 13, 2019
<u>/s/ HAYDN HSIEH</u> Haydn Hsieh	Director	June 13, 2019
<u>/s/ RUEY L. LU</u> Ruey L. Lu	Director	June 13, 2019
<u>/s/ ARTHUR O. WHIPPLE</u> Arthur O. Whipple	Director	June 13, 2019

**GSI TECHNOLOGY, INC. SUBSIDIARIES**

GSI Technology Holdings, Inc., a Cayman Islands company

GSI Technology (BVI), Inc., a British Virgin Islands company

GSI Technology Taiwan, Inc., a Republic of China company

GSI Technology Israel Ltd., an Israeli company

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CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

GSI Technology, Inc.  
Sunnyvale, California

We hereby consent to the incorporation by reference in the Registration Statements on Form S8 (Nos. 333-144140 and 333-219798) of GSI Technology, Inc. of our reports dated June 13, 2019, relating to the consolidated financial statements and the effectiveness of GSI Technology, Inc.'s internal control over financial reporting, which appear in this Form 10-K.

/s/ BDO USA, LLP  
San Jose, California  
June 13, 2019

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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-144140 and 333-219798) of GSI Technology, Inc. of our report dated June 5, 2017 relating to the financial statements, which appears in this Form 10-K.

/s/ PRICEWATERHOUSECOOPERS LLP

San Jose, California  
June 13, 2019

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**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT  
TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Lee-Lean Shu, certify that:

1. I have reviewed this annual report on Form 10-K of GSI Technology, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting, which are reasonably likely to adversely affect the registrant's ability to record, process, summarize, and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

June 13, 2019

/s/ LEE-LEAN SHU

Lee-Lean Shu  
*President and Chief Executive Officer*

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**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT  
TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Douglas M. Schirle, certify that:

1. I have reviewed this annual report on Form 10-K of GSI Technology, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting, which are reasonably likely to adversely affect the registrant's ability to record, process, summarize, and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

June 13, 2019

/s/ DOUGLAS M. SCHIRLE  
Douglas M. Schirle  
Chief Financial Officer

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

In connection with the Annual Report of GSI Technology, Inc. (the "Company") on Form 10-K for the year ended March 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned officers of the Company, each certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)); and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

June 13, 2019

/s/ LEE-LEAN SHU

Lee-Lean Shu  
*President and Chief Executive Officer*

/s/ DOUGLAS M. SCHIRLE

Douglas M. Schirle  
*Chief Financial Officer*

*A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Registrant and will be retained by the Registrant and furnished to the Securities and Exchange Commission or its staff upon request.*

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