

GSI TECHNOLOGY INC
Form 10-K
June 04, 2010

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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended March 31, 2010

or

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

**For the transition period from _____ to _____
Commission File Number 000-33387**

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) 980-8388
(Registrant's telephone number, including area code)

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

Title of Each Class
Common Stock, \$0.001 par value

Name of Each Exchange on which Registered
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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes 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 or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Act. (Check one):

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

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

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, 2009, as reported on the Nasdaq Global Market, was approximately \$75.9 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 25, 2010, there were 27,731,382 shares of the registrant's common stock issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for its 2010 annual meeting of stockholders are incorporated by reference into Part III hereof.

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GSI TECHNOLOGY, INC.

2010 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.

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PART I

Item 1. Business

Overview

We develop and market "Very Fast" static random access memory, or SRAM, products 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. In addition, we serve the ongoing needs of the military, industrial, test equipment 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 sell our products to leading original equipment manufacturer, or OEM, customers including Alcatel-Lucent, Cisco Systems and Huawei Technologies. 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.

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) 980-8388.

Recent Acquisition

In August 2009, we acquired substantially all of the assets related to the SRAM memory device product line of Sony Corporation and its subsidiaries (collectively, "Sony"), as well as certain related patents and license rights to other Sony intellectual property used in connection with the acquired product line. The acquisition allowed us to increase our share of the SRAM memory device market, expand our relationships with our major customers and expand our product portfolio.

The total purchase consideration for the acquisition is expected to be approximately \$6.9 million in cash, \$6.4 million of which has been paid and the balance of which represents the fair value of payments that we expect to make to Sony based on the future sale of certain acquired SRAM products.

The acquisition was accounted for as a purchase, and the results of operations and estimated fair value of assets acquired and liabilities assumed were included in our consolidated financial statements beginning August 29, 2010. Sales of products of the former Sony product line contributed approximately \$5.4 million to our net revenues in the fiscal year ended March 31, 2010.

Industry Background

SRAM Market Overview

Virtually all types of high-performance electronic systems incorporate SRAMs. An SRAM is a memory device that retains data as long as power is supplied, without requiring any further user intervention. SRAMs offer the fastest access to stored data of any type of memory device.

There is a broad variety of SRAMs, characterized by a number of attributes, such as speed, memory capacity, or density, and power consumption. There are several different industry measures of speed:

latency, also referred to as random access time, which is the delay between the request for data and the delivery of such data for use and is measured in nanoseconds, or ns;

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bandwidth, which is the rate at which data can be streamed to or from a device and is measured in gigabits per second;

clock frequency, which is the cycle rate of a clock within a synchronous device and is measured in megahertz, or MHz;

clock access time, which is the delay between the beginning of the clock cycle and the delivery of data as measured in nanoseconds; and

transaction rate, which is the rate at which new address references can be loaded into the memory device, and is measured in gigahertz, or GHz.

Historically, SRAMs have been utilized wherever other memory technologies have been inadequate. SRAMs demonstrate lower latency, resulting in faster random access times, relative to dynamic random access memory, or DRAM, and other types of memory technologies. However, over the past few decades, less expensive alternatives have been introduced to address certain applications formerly using lower performance SRAMs. For example, new types of DRAM are now in the process of displacing lower performance SRAM products in applications such as cell phones. As a result of the displacement of low performance SRAMs, the total market size for SRAMs is diminishing. However, due to their inherent higher latency characteristics, DRAMs cannot match the random access speed of high-performance SRAMs. 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.

Increasing Need for Very Fast SRAMs

Growth in data, voice and video traffic has driven the need for greater networking bandwidth, resulting in the continued expansion of the networking and telecommunications infrastructure. The continued growth in the level of Internet usage has led to the proliferation of a wide variety of equipment throughout the networking and telecommunications infrastructure, including routers, switches, wireless local area network infrastructure equipment, wireless base stations and network access equipment and a demand for new equipment with faster and higher performance. High-performance networking and telecommunications equipment requires Very Fast SRAMs. For example, in a typical router or switch, multiple Very Fast SRAMs are required to temporarily store, or buffer, data traffic and to provide rapid lookup of information in data tables. As networking equipment must increasingly support advanced traffic content such as Voice over Internet Protocol, or VoIP, and video streaming, demand for even higher performance Very Fast SRAMs is expected to continue to increase.

Demanding Requirements for Success in the Very Fast SRAM Market

The pressure on networking and telecommunications OEMs to bring higher performance equipment to market rapidly to support not only more traffic but also more advanced traffic content is compounded by the requirement that this new equipment occupy no more space than the equipment it replaces, which results in increased board density and the need for low power operations. In response to these pressures, OEMs have increasingly relied on providers that are capable of rapidly developing and introducing advanced, higher density, low power Very Fast SRAMs. The variety of applications for Very Fast SRAMs within the networking and telecommunications markets has also driven a need for more specialized products available in relatively low volumes. These specialized products include high-speed synchronous SRAMs with different density, latency and bandwidth capabilities. In general, OEMs prefer to work with a supplier who can address the full range of their high-performance Very Fast SRAM product requirements and, just as importantly, can offer the technical and logistic support necessary to sustain and accelerate their efforts.

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We believe the key success factors for a Very Fast SRAM vendor are the ability to offer a broad catalog of high-performance, high-quality and high-reliability Very Fast SRAM products, to continuously introduce new products with higher speeds, lower power and greater densities, to maintain timely availability of prior generations of products for several years after their introductions, and to provide effective logistic and technical support throughout OEM customers' product development and manufacturing life cycles.

The GSI Solution

We endeavor to address the overall needs of our OEM customers for Very Fast SRAMs, not only satisfying their immediate requirements for our latest generation, highest performance integrated circuits, or ICs, 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:

Innovative Product Performance Leadership

High Speed. Through the use of advanced architectures, design methodologies and silicon process technologies, we have developed a wide variety of high-performance Very Fast SRAMs. The vast majority of our products have random access latency of 6.5 nanoseconds or less, while our newest products demonstrate a 1 GHz transaction rate and clock access times as fast as 0.15 nanoseconds with per device bandwidth as high as 90 gigabits per second. By providing higher performance Very Fast SRAMs, we enable our networking and telecommunications OEMs to continually design and develop higher performance products that support increasingly complex traffic content.

Low Power Consumption. Many of our Very Fast SRAMs require significantly less power than comparable products offered by our principal competitors. Because these products utilize less power and generate less heat, the reliability of the networking or telecommunications equipment in which they are employed increases. Furthermore, the low power utilization of our Very Fast SRAMs helps enable OEMs to add capabilities to their systems, which otherwise might not have been possible due to overall system power constraints.

Process Technology Leadership. We maintain our own process engineering capability and resources, which are located in close physical proximity to our manufacturer, Taiwan Semiconductor Manufacturing Company, or "TSMC." This enhances our ability to work closely with TSMC to develop certain modifications of the advanced process technologies used in the manufacturing of our Very Fast SRAMs in order to maximize product performance, optimize yields, lower manufacturing costs and improve quality. Our most advanced 72 and 144 megabit, or Mb, synchronous Very Fast SRAMs are manufactured using 65 nanometer process technology. We are currently developing 144 megabit synchronous Very Fast SRAMs using 40 nanometer process technology, which will allow us to further increase product performance, lower power consumption and reduce costs.

Product Innovation. We believe that we have established a position as a technology leader in the design and development of Very Fast SRAMs. We were the first supplier to introduce 72-bit-wide SRAMs as single monolithic ICs. During fiscal 2010, we further solidified our position as a technology leader by being the first vendor to ship 144 megabit monolithic SRAMs to customers and the first vendor to ship Type-IIIe SigmaQuad and SigmaDDR SRAMs, the fastest SRAMs to reach the open market. In addition, we are the only vendor to offer a full line of Very Fast Synchronous SRAMs that operate and interface at 1.8 to 3.3 volts, giving our OEM customers the ability to use the same product in systems of theirs that operate at any voltage within that range. Moreover, for certain Very Fast Synchronous SRAMs, we are the only vendor to offer a product that operates at 1.8 volts, which uses approximately one half to two-thirds the power of our competitors' 2.5 volt products.

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Broad and Readily Available Product Portfolio

Extensive Product Catalog. The Very Fast SRAM market is highly fragmented in terms of product features and specifications. To meet our OEM customers' diverse needs, we have what we believe is the broadest catalog of Very Fast SRAM products currently available. Our product line includes a wide range of Very Fast SRAMs with varying densities, features, clock speeds, and voltages, as well as several operating temperature ranges and numerous package options in both 5/6 (lead) and 6/6 (lead-free) versions, which are compliant with the European Union's Restriction on the Use of Hazardous Substances Directive 2002/95/EC.

Advanced Feature Sets. Our products offer features that address a broad range of our networking and telecommunications OEMs' system requirements. Among these features is a JTAG test port, named for the IEEE Joint Test Action Group, which enables post-assembly verification of the connection between our Very Fast SRAMs and an OEM customer's system board, thereby allowing an OEM customer of ours to develop, test and ship their products more rapidly. Additionally, we offer our FLXDrive feature, which allows system designers to optimize the signal integrity for any given requirement. We also provide OEMs the ability to employ certain of our Very Fast SRAMs in various modes of operation by using our products' mode control pins, thus increasing the flexibility of those products and their ready availability from our inventory.

Superior Lifetime Availability of Products. Unlike the market for consumer electronics, the markets in which we compete, particularly the networking and telecommunications markets, generally are characterized by system designs that remain in production for extended periods of time, and maintenance of those systems in the field for even longer periods is critical to their success. Our foundry-based manufacturing strategy, our process technology selections, our master-die design strategy and the design of our packaging, burn-in and test work-flows all contribute to allow us to meet and exceed our guarantee of providing a product life of at least seven years for any new product family we bring to market. These techniques also allow us to keep our delivery lead-times relatively short even for specialized, infrequently ordered members of those product families. We believe our approach is better suited to address the needs of our target markets than attempts to apply mass market manufacturing strategies to Very Fast SRAM products.

Multiple Temperature Grades. We offer both commercial and industrial temperature grades for all of our Very Fast SRAMs. This ability to perform at specification throughout the industrial temperature range of -40°C to +85°C is critical for Very Fast SRAMs used in a broad variety of networking and telecommunications applications, where the operating environments may be harsh. We can also offer military and extended temperature grades upon request for most of our Very Fast SRAMs.

Master Die Methodology

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, from 21 mask sets we have created over 10,000 different products. Using these mask sets, we produce wafers that can be further processed upon customer orders into the final specified product thereby significantly shortening the overall manufacturing time. For example, from a 72 megabit mask set, we can produce three families of 72 megabit SRAM products. Our unique methodology results in the following benefits:

Rapid Order Fulfillment. We maintain a common pool of wafers that incorporate all available master die. Because we can typically create several different products from a single master die, we can respond to unforecasted customer orders more quickly than our competitors.

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Reduced Cost. Our master die methodology allows us to reduce our costs through the purchase of fewer mask sets by allowing faster and less expensive internal product qualifications, by enabling more cost-efficient use of engineering resources and by reducing the incidence of obsolete inventory.

Customer Responsiveness

Customer-driven Solutions. We work closely with leading networking and telecommunications OEMs, as well as their chip-set suppliers, to better anticipate their requirements and to rapidly develop and implement solutions that allow them to meet their specific product performance objectives. Customer demand drives our business. For example, to address near term needs, we offer critical specification variations, such as special operating ranges or wire bond options on currently available products, while we also design new families of products to meet their emerging long term needs. As a consequence, our portfolio not only includes the widest selection of catalog parts available, it also includes an extensive list of custom, customer-specific products. This degree of responsiveness enables us to provide our OEM customers with the Very Fast SRAMs required for their applications.

Accelerated Time-to-market. Our extensive open libraries of design support tools as well as our ability to deliver the specific device required for system prototyping with very short notice enables networking and telecommunication OEMs to design and introduce differentiated products quickly as well as to reduce their development costs. Our open model libraries give designers access 24 hours a day, seven days a week to electrical and behavioral simulation models. Behavioral models are offered in both Verilog and very high speed integrated circuits hardware description language ("VHDL") format to better fit different customers' simulation environments, further streamlining the customers' development process.

Quality and Reliability. Networking and telecommunications equipment typically have long product lives, and the cost to repair or replace this equipment due to product failure at any time is prohibitively expensive. The high-quality and reliability of Very Fast SRAMs incorporated in our OEM customers' products is, thus, critical. Every product family we offer is subjected to extensive long term reliability testing before receiving qualification certification, and every Very Fast SRAM shipped is first subjected to burn-in and then to final tests in which the SRAM is operated beyond its specified operating voltage and temperature ranges.

The GSI Strategy

Our objective is to profitably increase our market share in the Very Fast SRAM market. 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 low latency, high bandwidth and feature-rich memory products targeted primarily at the networking and telecommunications markets. Increasing network complexity due to higher traffic volume and more advanced traffic content continues to drive OEMs' demand for high-performance Very Fast SRAMs. We believe our active high-performance SRAM development and manufacturing expertise will continue to allow us to provide networking and telecommunications OEMs with the early access to next generation Very Fast SRAMs that offer superior performance, advanced feature sets and continued high reliability, which they need to allow them to design and develop new products that support increasingly complex traffic content and to bring networking and telecommunications equipment to market quickly.

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 Very Fast SRAM. We work with both our customers and with their non-memory IC suppliers that require high-performance memory support. We will continue to

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work with both groups at the pre-design and design stage of their projects 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. We plan to enhance our relationships with these leading OEMs and IC vendors and to develop similar relationships with additional OEMs and IC vendors.

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 SigmaQuad 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, to manufacture our products and will continue to provide TSMC with the sort of in-depth feedback for yield and performance improvement that can best come from very large array structures like those found in our products. Our most advanced products currently in production were designed using 65 nanometer process technology on 300 millimeter wafers. We intend to continue to collaborate closely with TSMC in the refinement of 40 nanometer process technology.

Exploit New Market Opportunities. While we design our Very Fast SRAMs specifically for the networking and telecommunications markets, our products are applicable across a wide range of industries and applications. We have recently experienced growth in both the defense and medical markets and intend to continue penetrating these and other new markets with similar needs for high-performance memory technologies.

Products

We design, develop and market a broad range of high-performance Very Fast SRAMs primarily for the networking and telecommunications markets. We specialize in Very Fast SRAMs featuring high density, low latency, high bandwidth, fast clock access times and low power consumption. We continue to offer 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 basic product configurations of our SRAMs based on their basic product type and their storage densities. These basic product configurations are the basis for over 10,000 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 multi-service access routers, universal gateways, enterprise edge routers, service provider edge routers, optical edge routers, fast Ethernet switches, gigabit Ethernet switches, wireless base stations, Asymmetric Digital Subscriber Line ("ADSL") modems, wireless local area networks, Internet Protocol phones and OC192 layer 2 switches. We also sell our products to OEMs that manufacture products for defense applications such as radar and guidance systems, 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.

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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. Our single data rate synchronous SRAMs feature clock access times as short as 2 nanoseconds and our double data rate synchronous SRAMs have clock access times as fast as 0.45 nanoseconds. Today, we supply synchronous SRAMs that can cycle at operating frequencies as high as 450 MHz.

Burst 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 SRAM 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 that were developed to address the needs of moderate performance networking 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 144 megabits with clock frequency of up to 333 MHz and clock access times as fast as 2 nanoseconds that operate at 3.3, 2.5 or 1.8 volts.

SigmaQuad Products. High-performance 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 SRAMs, our SigmaQuad family. Quad data rate SRAMs are separate input/output, or I/O, synchronous SRAMs that features two independent 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. We offer our SigmaQuad devices in two different bus protocol versions, two different power supply and interface voltage versions, with two different data burst length options, all under the name SigmaQuad or SigmaQuad-II. In addition, the family also includes derivative products including a family of common I/O (a single bi-directional data port) double data rate SRAMs known as SigmaCIO DDR-II SRAMs and a smaller family of double data rate separate I/O SRAMs designed to address some segments of the market currently served by dual-port SRAMs, known as SigmaSIO DDR-II SRAMs.

We currently offer SigmaQuad products in three storage densities, 18 megabits, 36 megabits and 72 megabits, with clock frequency rates up to 450 MHz and clock access times as fast as 0.45 nanoseconds, that operate at voltages of 2.5 and 1.8 volts.

SigmaRAM Products. We offer a family of high-performance, low voltage, HSTL, or high speed transceiver logic, I/O synchronous SRAM products based on the SigmaRAM architecture, which are designed for use on large format printed circuit boards common in many networking and telecommunication products. These SRAMs utilize a unique architecture that provides the capability to incorporate the full range of popular SRAM functionality, including late write and double late write protocols, pipelined read cycles, burst data transfers, and double data rate read and write data transfers in common I/O format.

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We currently offer SigmaRAM products with storage density of 18 megabits, speeds of up to 350 MHz and clock access times as fast as 1.7 nanoseconds that operate at 1.8 volts.

Asynchronous SRAM Products

Unlike synchronous SRAMs, asynchronous SRAMs employ a clock-free control interface. They are widely used in support of high-end digital signal processors, or DSPs. We believe we have one of the broadest portfolios of 3.3 volt, high-speed asynchronous SRAMs. These products are designed to meet the stringent power and performance requirements of networking and telecommunications applications, such as VoIP, cellular base stations, DSL line cards and modems.

We currently offer asynchronous SRAM products with a variety of storage densities between 1 megabit and 8 megabits and random access times ranging from 7 nanoseconds to 15 nanoseconds. All of our asynchronous SRAMs operate at 3.3 volts.

We intend to regularly introduce new products with high-performance advanced features of increasing complexity. These product solutions will require us to achieve volume production in a rapid timeframe. We believe that by using the advanced technologies offered by our fabrication partner and its expertise in high-volume manufacturing, we can rapidly achieve volume production. However, lead times for materials and components we order vary significantly and depend on such factors as the specific supplier, contract terms and demand for a component at a given time.

Customers

Our primary sales and marketing strategy is to achieve design wins with OEM customers who are leading networking and telecommunications companies. The following is a representative list of our OEM customers that directly or indirectly purchased more than \$550,000 of our products in the fiscal year ended March 31, 2010:

Alcatel-Lucent
Ericsson
Motorola

BAE Systems
Honeywell
Tellabs

Cisco Systems
Huawei Technologies
ZTE

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 networking and telecommunications 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 39.2%, 29.3% and 32.3% of our net revenues for fiscal 2010, 2009 and 2008, respectively. Sales to foreign and domestic distributors accounted for 50.2%, 61.1% and 63.1% of our net revenues for fiscal 2010, 2009 and 2008, respectively.

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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,		
	2010	2009	2008
Consignment warehouses:			
SMART Modular Technologies	20.8%	25.7%	28.3%
Jabil Circuit	10.4		.4
Distributors:			
Avnet Logistics	21.7	25.3	29.2
Nexcomm	9.6	10.6	7.4

Cisco Systems, our largest OEM customer, purchases our products primarily through its consignment warehouses, SMART Modular Technologies, Jabil Circuit and Flextronics Technology, and also purchases some products through its contract manufacturers and directly from us. Based on information provided to us by Cisco Systems' consignment warehouses and contract manufacturers, purchases by Cisco Systems represented approximately 35%, 26% and 28% of our net revenues in fiscal 2010, 2009 and 2008, 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, 2010, we employed 18 sales and marketing personnel, and were supported by over 200 independent sales representatives. We believe that our relationship with our three U.S. distributors, Arrow, Avnet and Nu Horizons, puts us in a strong position to address the Very Fast SRAM market in the U.S. We currently have regional sales offices located in Canada, China, Italy 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 focused on increasing brand name awareness and providing solutions that address our customers' needs. Key components of our marketing efforts include maintaining an active role in industry standards committees, such as the JEDEC Solid State Technology Association (formerly the Joint Electron Device Engineering Council), or JEDEC, which is responsible for establishing detailed specifications, which can be utilized in future system designs. We believe that our participation in and sponsorship of numerous proposals within these committees have increased our profile among leading manufacturers in the networking and telecommunications segment of the Very Fast SRAM market. 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 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

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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.

Manufacturing

We outsource our wafer fabrication, assembly and a significant portion of our 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 under individually negotiated purchase orders. We do not currently have a long-term supply contract with TSMC, and therefore, TSMC is not 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 or other independent foundries to supply us with the wafers we require.

Most of our products are implemented using 0.13 micron and 90 nanometer process technologies on 300 millimeter wafers using process technology developed by TSMC. We currently have five separate product families in production using the 0.13 micron process. Our 72 megabit SigmaQuad, 72 megabit synchronous BurstRAM and NBT SRAM and our 36 megabit SigmaQuad products are currently manufactured using 90 nanometer process technology. We are also developing new synchronous SRAMs using 65 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 six to ten 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 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, a significant portion of which occurs at King Yuan Electronics Company. We perform testing for most of our low volume products in-house at our Santa Clara, California and our Taiwan facilities.

Research and Development

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. Research and development expenses were \$9.1 million in fiscal 2010, \$5.7 million in fiscal 2009 and \$4.4 million in fiscal 2008. Our research and development staff includes engineering professionals with extensive experience in the areas of SRAM design, DRAM design and systems level networking and telecommunications equipment design. Our current development focus is on the SigmaQuad SRAM family and a new family of low latency DRAM products.

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We are also leveraging our advanced design capabilities to expand into other networking and telecommunications products, including a channelized OC-3 processor that incorporates over 90 embedded SRAM modules. When completed, this single chip solution will be capable of simultaneously processing multiple types of traffic at OC-3 bandwidth and, we believe, will offer power, chip count and cost advantages compared to traditional network processor solutions. We have established a design center in Norcross, Georgia to focus on the development of these products.

Competition

Our existing competitors include many large domestic and international companies, some of which have substantially greater resources, offer other sorts 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 Device Technology, Integrated Silicon Solution, REC and Samsung Electronics. While some of our competitors offer a broad array of memory products and offer some of their products at lower prices than we do, we believe that our focus on and performance leadership in low latency, high density Very Fast SRAMs provide us with key competitive advantages.

We believe that our ability to compete successfully in the rapidly evolving markets for Very Fast SRAM products 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;

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 Very Fast SRAM 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, any efforts by us to introduce new products based on a new memory technology may not be successful and 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 currently hold ten United States patents and have several patent applications

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pending. We do not consider our existing patents to be materially important to our business, and we cannot assure you that any patents will be issued as a result of our pending applications or that any patents issued will be valuable to our business. We believe that factors such as the technological and creative skills of our personnel and the success of our ongoing product development efforts are more important than our patent portfolio 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 subject to 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 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, 2010, we had 127 full-time employees, including 64 engineers, of which 39 are engaged in research and development and 36 have PhD or MS degrees, 18 employees in sales and marketing, eight employees in general and administrative capacities and 59 employees in manufacturing. Of these employees, 54 are based in our Santa Clara facility and 50 are based in our Taiwan 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. 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, and our code of conduct (including code of ethics provisions that apply to our principal executive officer, principal financial officer, controller, and senior financial officers) are also available at our website under "Corporate Governance." These items are also available to any

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stockholder who requests them by calling (408) 980-8388. 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.

Executive Officers

The following table sets forth certain information concerning our executive officers as of June 1, 2010:

Name	Age	Title
Lee-Lean Shu	55	President, Chief Executive Officer and Chairman
David Chapman	54	Vice President, Marketing
Didier Lasserre	45	Vice President, Sales
Douglas Schirle	55	Chief Financial Officer
Bor-Tay Wu	58	Vice President, Taiwan Operations
Ping Wu	53	Vice President, U.S. Operations
Robert Yau	57	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. In October 2000, Mr. Shu became 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.

David Chapman has served as our Vice President, Marketing since July 2002. From November 1998 to June 2002, Mr. Chapman served as our Director of Strategic Marketing and Applications Engineering. From February 1988 to November 1998, Mr. Chapman served in various product planning and applications engineering management capacities in the Memory Operation division and later the Fast SRAM division of Motorola Semiconductor Product Sector, Motorola, Inc., an electronics manufacturer. Mr. Chapman has been a member of JEDEC since 1985, and served as Chairman of its SRAM committee in 1999.

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 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, 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

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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, 2010, we recorded net revenues of as much as \$21.2 million and as little as \$11.3 million and quarterly operating income of as much as \$4.4 million and as little as \$1.1 million. 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:

our ability to attract new customers, retain existing customers and increase sales to such customers;

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;

changes in our customers' inventory management practices;

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.

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

Cisco Systems, our largest OEM customer, purchases our products through SMART Modular Technologies, Jabil Circuit and Flextronics Technology, its consignment warehouses, through its contract manufacturers and directly from us. Based on information provided to us by its consignment warehouses and contract manufacturers, purchases by Cisco Systems represented approximately 35%, 26% and 28% of our net revenues in fiscal 2010, 2009 and 2008, respectively. In the quarter ended March 31, 2007, Cisco Systems implemented a "lean manufacturing" program under which it reduced the levels of inventory carried by it and by its contract manufacturers. The transition to this new program resulted in reductions in purchases of our products by Cisco Systems' contract manufacturers during the following two quarters as they drew down their existing inventories. Purchases by Cisco Systems' consignment warehouses and contract manufacturers increased in the four quarters ended June 30, 2008 compared to the two prior quarters and then declined again in the three quarters ended March 31, 2009, followed by an improvement in the four quarters ended March 31, 2010.

We expect that our op