LOGICVISION INC
Form 10-K
March 18, 2009

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

FORM 10-K

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

For the fiscal year ended December 31, 2008

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: 0-31773

LOGICVISION, INC.

(Exact name of registrant as specified in its charter)

Delaware	**94-3166964**
(State or other jurisdiction of incorporation or organization)	**(IRS Employer Identification No.)**
25 Metro Drive, Third Floor San Jose, California 95110	**(408) 453-0146**
(Address of principal executive offices)	**(Registrant's telephone number, including area code)**

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

Title of each class	**Name of exchange on which registered**
Common Stock, par value $0.0001 per share	**The NASDAQ Stock Market LLC**
Series A Participating Preferred Stock Purchase Rights	**The NASDAQ Stock Market LLC**

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 o No x

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (Section 229.405 of this chapter) 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. o

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

Large accelerated filer o	Accelerated filer o	Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company x

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

The aggregate market value of Common Stock held by non-affiliates of the registrant (based upon the closing sale price on The Nasdaq Global Market on June 30, 2008) was approximately $7.5 million. Shares held by each executive officer, director and by each person who owns 10% or more of the outstanding Common Stock 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 March 17, 2009, there were 9,473,572 shares of Common Stock, $0.0001 per share par value, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Items 10 (as to directors and Section 16(a) Beneficial Ownership Reporting Compliance), 11, 12 (as to Beneficial Ownership), 13 and 14 of Part III incorporate by reference information from the registrant's proxy statement to be filed with the Securities and Exchange Commission in connection with the solicitation of proxies for the registrant's 2009 Annual Meeting of Stockholders scheduled to be held on June 11, 2009.

LOGICVISION, INC.

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PART I

Item 1. Business

When used in this Report, the words "expects," "anticipates," "intends," "estimates," "plans," "believes," and similar expressions are intended to identify forward-looking statements. These are statements that relate to future periods and include statements about the features, benefits and performance of our current and future products, services and technology, plans for future products and services and for enhancements of existing products and services, our expectations regarding future operating results, including backlog, revenues, sources of revenues and expenses, net losses, fluctuations in future operating results, our estimates regarding the adequacy of our capital resources, our capital requirements and our needs for additional financing, planned capital expenditures, use of our working capital, our critical accounting policies and estimates, our internal control over financial reporting, our patent applications and licensed technology, our efforts to protect intellectual property, expectations regarding dividends, our ability to attract customers, establish license agreements and obtain orders, the impact of economic and industry conditions on our customers, customer demand, our growth strategy, our marketing efforts, our business development efforts, future acquisitions or investments, our focus on larger orders with major customers, our employee matters, our competitive position, our foreign currency risk strategy, and the impact of recent accounting pronouncements. Forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from those projected. These risks and uncertainties include, but are not limited to, the possibility that orders could be modified, cancelled or not renewed, our ability to negotiate and obtain customer agreements and orders, lengthening sales cycles, the concentration of sales to large customers and our reliance on a limited number of customers for a substantial portion of revenues, dependence upon and trends in capital spending budgets in the semiconductor industry and fluctuations in general economic conditions, our ability to rapidly develop new technology and introduce new products, our ability to safeguard our intellectual property and the risks set forth below under Part I, Item 1A, "Risk Factors." These forward-looking statements speak only as of the date hereof. The Company expressly disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in the Company's expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

In this report, all references to "LogicVision," "we," "us," "our" or the "Company" mean LogicVision, Inc. and its subsidiaries, except where it is made clear that the term means only the parent company.

LogicVision and the LogicVision logo are our registered trademarks. We also refer to trademarks of other corporations and organizations in this document.

Overview

We are a test and yield learning company in the semiconductor design-for-test (DFT) sector. Our proprietary technologies for embedded test and diagnostics enable more efficient test of complex semiconductor devices. Our technology allows semiconductor designers to insert test structures inside semiconductor integrated circuits. These test structures allow designers and engineers to test the functionality and performance of their devices throughout each key stage of a complex semiconductor s life cycle. The most complex of these circuits are called System-on-a-Chip, or SoC, semiconductors. Our embedded test solutions have been successfully deployed in SoC s found in digital consumer products, medical products, automotive electronics, networking and wireless communications devices, computers and satellite systems.

Our solutions also allow testing of integrated circuits after they have been assembled onto boards and systems, enabling diagnostic test throughout the semiconductor s life cycle. Our analysis software aggregates and analyzes data from various semiconductor test sources to identify whether silicon behavior meets design criteria across varying manufacturing and operating conditions. Our embedded test products generate proprietary circuit structures that are incorporated into an integrated circuit to test and diagnose the chip at full speed, without the signal delay or degradation experienced by external testers. Our proprietary circuits are designed to be modular and reusable, to enable more efficient design and to address time-to-market and manufacturing yield issues.

We believe our products can reduce semiconductor manufacturing test costs, accelerate silicon bring-up times, provide for yield learning, improve time-to-yield and result in less field returns. The target market for our technology is SoC designs with feature widths of 130 nanometers, 90 nanometers, 65 nanometers, 45 nanometers and smaller. A nanometer is one billionth of a meter.

We incorporated as LV Software in July 1992 in California and engaged principally in research and development activities through 1994. We first generated meaningful commercial revenues from the license of our initial embedded test product in 1995. In June 1996, we changed our corporate name to LogicVision, Inc. We reincorporated in Delaware in September 2000.

Technology

Embedded test

We believe that embedded test technology provides significant benefits for the new and complex SoC semiconductor devices being designed and manufactured today. Conventional test is performed with external equipment, while embedded test is performed primarily using circuitry resident in the semiconductor design. By embedding test circuit structures on the semiconductor itself, our embedded test solutions eliminate many of the key limitations associated with conventional external testing. Our embedded test design software automatically analyzes the structure of complex circuits to determine requirements for at-speed testing and diagnostics, and creates and integrates our proprietary embedded test circuits with the existing design functions to address these requirements. Our embedded test manufacturing software allows external test equipment to easily operate our proprietary embedded test circuits for pass-fail testing, chip debug or manufacturing datalogging. Our technology also enables board and system level diagnostics, system bring-up and in-field testing and diagnostics.

Design phase

Our embedded test technology is incorporated into integrated circuits in the form of user-configurable circuit structures that provide four functions:

- *access management*—necessary scan chains, shared isolation collars, boundary scan and test points to enable access to any point within complex designs;
- *timing management*—proprietary functionality for clock skew management, multiple cycle paths and multiple frequencies;
- *test data generation and analysis*—proprietary functionality created for each design block to generate circuit test data and analyze circuit responses;
- *external control*—standard IEEE 1149.1 and IEEE 1149.6 compliant test access ports for access and control of all embedded test circuits.

Manufacturing phase

Because our embedded test circuits are incorporated in semiconductor designs, they are manufactured as part of the semiconductor devices. When the prototypes of a new integrated circuit arrive from fabrication for initial device bring-up, debug and characterization, our embedded test circuits and embedded test manufacturing software can be used to accelerate this process and allow lower cost equipment to be utilized. Our embedded test circuit structures and embedded test manufacturing software also facilitate at-speed test during wafer probe and allow lower-cost test equipment to be used at wafer probe. Semiconductor devices that pass wafer probe test are then packaged, and our embedded test circuits and embedded test manufacturing software are used again during final test. Our embedded test circuits are designed to be activated with simple external test signals applied through the industry standard IEEE 1149.1 and IEEE 1149.6 test access ports. Our analysis software aggregates and analyzes data from various test sources to identify whether silicon behavior meets design criteria across varying manufacturing and operating conditions.

Test Development Functions. Using our technology, the bulk of the patterns applied to test the integrated circuit are created on-chip, with only minimal external control needed to achieve a pass-fail test. Our embedded test design and manufacturing software provides the engineer with the ability to easily create pass-fail test patterns, and then optimize them for speed, execution time, accuracy, power and results.

Debug and Diagnostic Functions. Our embedded test provides a number of debug and diagnostic modes to facilitate debug, diagnosis and datalogging. These are leveraged using our embedded test manufacturing software.

Implementation technologies

We have developed several technologies to facilitate the mainstream design and manufacturing use of embedded test technology. These include:

- design automation algorithms and implementation for embedded test;
- hierarchical isolation, access and assembly technologies;
- embedded test design verification technologies;
- high-performance circuit fault simulation algorithms and automation technologies;
- capture-by-domain for multiple-clock timing;
- at-speed, multi-frequency, multi-clock logic embedded test technology;
- fault-insertion technology for system diagnostics;
- at-speed, embedded and external memory test technologies;

- at-speed interconnect test technology;
- test and measurement technologies for embedded phase-locked-loops;
- test and measurement technologies for high-speed serial I/O (SerDes I/O);
- manufacturing automation for simplified access and control of embedded test circuits on test equipment;
- accurate real-time identification of open connection lines between interconnects on a circuit;
- analysis algorithms to facilitate the identification of parametric yield limiters;
- signoff process and handoff database for robust transfer of embedded test information to manufacturing; and
- parametric and input/output test technology to facilitate multi-site and reduced pin-count test, debug and datalogging.

Products

We offer a portfolio of products for the automated development, integration, and deployment of embedded test technology:

Technology products

Embedded Circuit Structures. Our embedded test technology enables our customers to design and manufacture our embedded test circuit structures for a specific design. For a typical design of 1 million gates and above, our embedded testers are less than a few thousand gates and represent only 1% to 2% of chip area. Our user-configurable embedded test circuit structures are designed to test memory, logic, high-speed input/outputs, phased-locked-loops, cores, hierarchical blocks and interconnect.

Design Software

We provide a suite of highly integrated embedded test design software tools for embedded test implementation on application specific integrated circuits, or ASIC, and SoC designs. We provide design software that automatically analyzes the structure of complex circuits to determine requirements for at-speed testing and diagnostics. Our software creates and integrates our proprietary circuits with the existing design circuits to address these requirements. It also assists with the timing analysis and simulation processes necessary for proper verification by providing timing analysis scripts and simulation test benches.

Manufacturing Software products

We provide embedded test manufacturing software for access and control of embedded test during chip and system test program development, debug, manufacturing test and datalogging. This enables user interaction with the embedded test circuits to evaluate and diagnose chip-level and board-level failures during manufacturing. This includes pass-fail testing, debug and basic failure diagnostics and datalogging. We support a wide set of third-party industry standard test equipment.

Product offerings

We currently offer our embedded test circuits, design software and manufacturing software in a variety of product bundles under the product family name Dragonfly Test Platform™ with the product sub-families named ETCreate™, Silicon Insight®, and Yield Insight™.

The ETCreate product sub-family consists of embedded test intellectual property and corresponding design automation software that provide embedded test solutions for different components of an ASIC or SoC design. The individual embedded test products within this sub-family and their underlying capabilities are described below.

Products	Applications
ETMemory	• Provides intellectual property for flexible, area-optimized, at-speed, memory embedded test functionality. • Supports single and multiport embedded memories such as SRAMs, DRAMs and ROMs. • Supports any size memory manufacturable in given technology. • Provides manufacturing tools for integrated circuit and system test and diagnosis of embedded memories. • Provides repair analysis for memories with redundancy. • Provides on-chip analysis and self-repair of memories with redundancy. • Supports both standard and user-programmable memory test algorithms. • Supports run-time programmable memory test algorithms.
ETLogic	• Provides intellectual property for at-speed, multi-frequency logic self-test and scan test functionality. • Includes intellectual property for direct test access and isolation of legacy cores. • Automates analysis, generation, assembly and verification of logic test intellectual property. • Supports high-speed multiple asynchronous clock domains, pipelining and multi-cycle paths. • Automates a complete, hierarchical methodology for system-on-a-chip design and test. • Supports design partitioning and core reuse for concurrent engineering. • Facilitates transportable embedded test for functional block re-use.
ETPLL	• Provides embedded test intellectual property for accurate, specification-driven test of Phase-Locked-Loop (PLL) functionality. • Automates generation, assembly and verification of embedded test circuitry for phase-locked-loops. • Supports measurement-based tests of jitter, loop-gain and lock-range specifications. • Measurement resolution to 0.125 of a gate delay.
ETSerdes	• Provides embedded test intellectual property for accurate structural test that measure most SerDes performance characteristics. • Automates generation, assembly and verification of embedded test circuitry for high speed I/O. • Measured parameters include signal transition times, logic levels, jitter (various types, and Root Mean Square (RMS) or histogram), and jitter tolerance-related timing parameters. • Measurement resolution at sub-picosecond accuracy.

ETSystemMemory™	• Provides intellectual property for runtime programmable, high-speed, board-level memory module test functionality. • Supports timing and algorithms for use with SRAMs, DRAMs, SDRAMs and others. • Automates generation, assembly and verification of programmable external memory embedded test controller. • Includes manufacturing tools for system-level test and diagnosis of board-level memories.
ScanBurst™	• A DFT tool developed in partnership with Mentor Graphics for improved at-speed logic test of high-speed nanometer SoC designs. • Provides comprehensive design automation for generating and integrating the on-chip distributed clock and scan control logic, which enables the application of BurstMode Timing in conjunction with Mentor's FastScan and TestKompress Automated Test Pattern Generation ("ATPG") products. • Complements existing ATPG based DFT techniques by providing an environment to easily insert scan and clock control structures for at-speed testing based on LogicVision's patented BurstMode Timing technology. • Provides intellectual property for direct test access and isolation of legacy cores.

The Silicon Insight™ product sub-family provides automated interactive graphical environments for test bring-up and silicon characterization of devices containing our embedded test capabilities. The Silicon Insight products can greatly increase productivity for chip designers and test engineers during the critical phase of silicon validation and debug, speeding time-to-market and yield improvement. Silicon Insight Automatic Test Equipment ("ATE") is a version of the Silicon Insight software that interfaces to most commercial tester platforms while Silicon Insight Desktop is a version of the Silicon Insight software that runs on any Linux PC or laptop. The individual products within this sub-family and their underlying capabilities are described below.

Products	Applications
Silicon Insight Logic	• Embedded Test Diagnostics software package for interactive debug and diagnosis of embedded logic equipped with LogicVision's ETLogic Intellectual Property. • Supports interactive pass-fail testing and debug of logic in the design. • Automates the creation, modification and application of test and debug patterns on specified LVReady automated test equipment. • Provides manufacturing tools that reduce time-to-market for prototype integrated circuits. • Works on an engineer's desktop using a Linux PC or with all popular automatic test equipment.
Silicon Insight Memory	• Embedded Test Diagnostics software for interactive debug and diagnosis of embedded memories equipped with our Embedded ETMemory Intellectual Property. • Supports interactive pass-fail testing and debug of only the memory in the design. • Automates the creation, modification and application of test and debug patterns on specified LVReady automated test equipment. • Provides manufacturing tools that reduce time-to-market for prototype integrated circuits. • Works on an engineer's desktop using a Linux PC or with all popular automatic test equipment.

Silicon Insight Mixed	• Embedded Test Diagnostics software for interactive debug and diagnosis of embedded mixed signal circuits equipped with LogicVision's Embedded SerDes Test or Embedded PLL Test IP. • Supports interactive pass-fail testing and debug of PLLs and SerDes in the design • Automates the creation, modification and application of test and debug patterns on specified LVReady automated test equipment. • Provides manufacturing tools that reduce time-to-market for prototype integrated circuits. • Works on an engineer's desktop using a Linux PC

The Yield Insight product provides automated yield learning capabilities based on embedded test failure and diagnostic data obtained during production test. Yield Insight and its underlying capabilities are described below.

Products	Applications
Yield Insight	• Addresses memory-related yield issues by leveraging customer investment in our ETMemory Built-In Self-Test ("BIST") Intellectual property. • Allows user to analyze yield issues down to individual memories, rows, columns and bits and correlate failures to different environmental conditions. • Allows user to create data-mining rules that sift through the memory test data to automatically identify potential yield limiting issues. • Enables users to analyze and optimize memory redundancy schemes by analyzing redundancy element utilization, resulting in higher yields and better yield-redundancy tradeoffs. • Provides graphical analysis and scripting capabilities that allow users to automate and standardize their yield analysis processes.

Services

Maintenance. We assist our customers with telephone and on-line support, bug fixes and upgrade privileges on a when and if available basis.

Design Services. We assist our customers with the design and manufacturing deployment of embedded test. Our design services help our customers analyze, generate, assemble and verify embedded test circuits, and help our customers and partners rapidly adopt our technologies.

Technology Development Contracts. As a part of our strategy to make embedded test technology more applicable to custom designs, we enter into development contracts with industry leaders for specific projects. Our development contracts include developing new embedded test capabilities and appropriate modifications to our standard automation software. These contracts help our customers and partners to rapidly adopt our technologies.

Customers

We license our proprietary technologies and software products to companies in key markets within the semiconductor, semiconductor diagnostics and systems industries. Our customers include application specific integrated circuit or system-on-a-chip designers in systems companies, fabless companies and integrated device manufacturers. Customers accounting for more than 10 percent of revenue are as follows:

	Year Ended December 31,		
	2008	**2007**	**2006**
LSI Corporation	16%	21%	26%
Broadcom Corporation	18%	19%	18%

Timing of Orders

Our past operating results have been, and we expect that our future operating results will be, subject to fluctuations due to a number of factors, including unpredictability of the buying patterns of our customers, the concentration of orders with large customers, dependence upon capital spending budgets and fluctuations in general economic conditions.

Research and Development

Our ability to meet customer needs for improved technology, and maintain our technology leadership, depends largely on whether we can continue to rapidly develop and deploy new technology and introduce new products. We have made, and intend to continue to make, significant investments in research and development. In addition to an overall knowledge of test methodologies, embedded test requires an expertise in four diverse areas: integrated circuit design and verification, electronic design automation algorithms and software development, software development for manufacturing test and test equipment, and software development for analysis of yield issues. We have assembled a highly skilled and multi-disciplinary team for this purpose.

As of December 31, 2008 our engineering team comprised 22 employees, 12 of whom have advanced degrees, and most of whom have extensive industry experience in one or more of the aforementioned areas of expertise. Our engineering team is organized into four development groups, each focusing on one of these four areas of expertise, and each contributing the related portion to the bundled product offerings. The development groups are:

- *Integrated Circuit Design*—Our integrated circuit design team focuses on the overall embedded test intellectual property architecture and its implementation and verification.
- *Design Software*—Our design software team focuses on developing the software that analyzes, generates, assembles, and verifies an integrated circuit design with embedded test.
- *Manufacturing Software*—Our manufacturing software team focuses on developing software for enabling test and diagnostic in manufacturing.
- *Analysis Software*—Our analysis software team focuses on developing software to analyze integrated circuit test and foundry data to identify and diagnose yield issues.

In addition to the four development groups, we have product engineering teams focused on software builds and release, documentation and quality assurance.

Research and development expenses were $3.2 million, $3.6 million and $4.1 million during the years ended December 31, 2008, 2007 and 2006, respectively.

Sales and Marketing

The majority of our revenues are generated by our direct sales force. In the United States, we have sales and service personnel located in northern and southern California, Massachusetts, Pennsylvania and Texas. We also use independent sales representatives in the United States. Internationally, we have sales and service personnel located in Japan; sales in China, France, Germany, India, Israel, Japan, Korea, the United Kingdom (“UK”) and Sweden are handled by distributors or independent sales representatives. Information regarding geographic areas is included in Note 12 to the Consolidated Financial Statements in Item 8. Sales and service personnel consist of sales directors who are responsible for all business aspects of the customer relationship and application engineers who manage the technical pre-sales as well as the post-sales customer support issues. As of December 31, 2008, we had 22 employees involved in sales, marketing, application engineering and customer service.

The main goal of our sales force is to work with major systems, consumer electronics and semiconductor companies who have the expertise to implement our technology today. We focus on leading companies because they are influential in setting standards. We focus on developing customer relationships with companies in the areas of networking and wireless communications, medical products, computer servers and graphics, and consumer electronics. Additionally, as systems companies use our technology, they often require their component suppliers to supply semiconductors with our embedded test technology already designed-in for their system use. In this way we are able to create both push and pull demand for our technology.

Our marketing efforts include product and technical marketing, public relations, corporate communications and business development functions. We strive to develop relationships with industry partners such as application specific integrated circuit suppliers, silicon foundries, electronic design automation tool suppliers, hardware tester manufacturers and intellectual property providers.

Sales and marketing expenses are allocated between cost of revenues and sales and marketing expenses. Application engineering efforts devoted to revenue-generating design and technology development projects and post-contract customer support activities are recorded as cost of revenues. Sales and marketing expenses incurred for general selling and marketing activities are recorded as sales and marketing expenses.

Sales and marketing expenses were $5.3 million, $5.1 million and $7.0 million during the years ended December 31, 2008, 2007 and 2006, respectively.

Intellectual Property

We have a portfolio of intellectual property covering the areas of test and diagnosis of logic, memory and mixed-signal circuits with focus on embedded, at-speed and parametric aspects. Both design and manufacturing methods are covered. As of December 31, 2008, our intellectual property portfolio consisted of 50 issued U.S. patents and 3 pending U.S. patent applications. Generally, the term of patent protection is 20 years from the earliest effective filing date of the patent application. Our issued patents expire at various times between June 2016 and December 2024. Our patents cover technology intended to address problems we consider fundamental to embedded test, such as timing, power consumption and parametric testing.

Our existing and future patents may be circumvented, blocked, licensed to others or challenged as to inventorship, ownership, scope, validity or enforceability. We may not receive competitive advantages from the rights granted under our patents. Furthermore, our current or future patent applications may not be issued with the scope of the claims sought by us, if at all. In addition, others may develop technologies that are similar or superior to our proprietary technologies, duplicate our proprietary technologies or design around the patents owned or licensed by us. If our products, patents or patent applications are found to conflict with any patents held by third parties, we could be prevented from selling our products, our patents may be declared invalid or our patent applications may not result in issued patents. In addition, in foreign counties, we may not receive effective patent and trademark protection. We cannot be sure that steps we take to protect our proprietary technologies will prevent misappropriation of our technologies.

The semiconductor industry is characterized by vigorous protection and pursuit of intellectual property rights or positions. There are numerous patents in the semiconductor industry and new patents are being issued at a rapid rate. This often results in significant and often protracted and expensive litigation. Litigation may be necessary to enforce our intellectual property rights or to determine the validity or scope of the proprietary rights of others. Litigation could cause us to incur significant expenses, harm our sales of the challenged technologies or products and divert the efforts of our technical and management personnel, whether or not a court decides in our favor. From time to time third parties may notify us of intellectual property infringement claims. If it is necessary or desirable, we may seek licenses under these third party patents or intellectual property rights. However, we cannot be sure that third parties will offer licenses to us on acceptable terms or at all.

If we fail to obtain a license from a third party for proprietary technologies that we use, or receive an adverse result in any litigation**,** we could incur substantial liabilities, or be compelled to suspend sales of our products or our use of processes requiring the technologies or expend significant resources to develop or acquire non-infringing technology. We may not be successful in the development or acquisition of intellectual property. To date, we have had no such litigation matters concerning intellectual property.

We generally enter into confidentiality agreements with our employees, industry partners and customers, as well as generally control access to and distribution of our documentation and other proprietary information. Despite this protection, unauthorized parties may copy aspects of our current or future software products or obtain and use information that we regard as proprietary.

Competition

The semiconductor and systems industries are highly competitive and characterized by rapidly changing technology. The market for embedded test is still evolving, and we expect competition to continue to emerge and become more intense in the future.

Design

In the design phase of product development, we face competition from traditional broad line electronic design automation providers such as Cadence Design Systems, Inc., Magma Design Automation Inc., Mentor Graphics Corporation and Synopsys, Inc. and from smaller test tool providers. These companies provide competing design-for-test technologies and some level of built-in self-test capability. We also face competition from methodologies developed internally at large integrated device manufacturers, systems companies and electronic design automation providers.

Manufacturing

Because embedded test has the potential to impact the external test market, we believe traditional hardware tester manufacturers such as Advantest Corporation, LTX-Credence Corporation, Teradyne, Inc. and Verigy Ltd. all view embedded test and LogicVision as competition. Many of these companies are devoting significant resources to developing external solutions to testing complex integrated circuits, including working closely with some of our current and potential customers. Their efforts may result in the development of solutions that compete with our embedded test solution. In addition, all of the tester manufacturers above participate in our LVReady partner program through which our embedded test access software is integrated into their test platform, which may provide them with additional insight into our business and technology.

Most of the companies with whom we compete are significantly larger than we are and have greater financial resources. As embedded test is more broadly adopted in the market, we face the potential of one or more larger companies appearing as direct competition. We believe that the principal competitive factors in our market include proven technology, effective intellectual property, deployment automation, comprehensive manufacturing control and customer service. We believe we compete favorably with respect to all these factors.

Employees

As of December 31, 2008, we employed 51 total employees including 48 full-time employees worldwide, of which 30 employees were located in the United States, 17 employees were located in Canada, and 4 employees were located in Asia and Europe. This included 22 in sales and marketing, 22 in research and development, and 7 in finance, information technology and administration. Our employees are not covered by any collective bargaining agreements, and we consider our relations with our employees to be good.

Available Information

Our website is *http://www.logicvision.com*. We make available free of charge, on or through our website, our annual, quarterly and current reports, and any amendments to those reports, as soon as reasonably practicable after electronically filing such reports with the Securities and Exchange Commission, or SEC. Information contained on our website is not part of this report.

Item 1A. Risk Factors

If the semiconductor industry does not adopt embedded test technology on a widespread basis, our revenues could decline and our stock price could fall.

To date, the semiconductor industry has not adopted embedded test technology as an alternative to current testing methods on a widespread basis. If the semiconductor industry does not adopt embedded test technology widely and in the near future, our growth will be limited, our revenues could decline, and our stock price could fall. We cannot provide assurance that integrated circuit designers and design companies customers will accept embedded test technology as an alternative to current testing methods in the time frame we anticipate, or at all. The industry may fail to adopt embedded test technology for many reasons, including the following:

- our current and potential customers may not accept or embrace our Dragonfly Test Platform™ integrated family of products;
- potential customers may determine that existing solutions adequately address their testing needs, or the industry may develop alternative technologies to address their testing needs;
- potential customers may not be willing to accept the perceived delays in the early design stages associated with implementing embedded test technology in order to achieve potential time and cost savings at later stages of silicon debugging and production testing;
- potential customers may have concerns over the reliability of embedded testing methods relative to existing test methods;
- our existing and potential customers may react to declines in demand for semiconductors by curtailing or delaying new initiatives for new complex semiconductors or by extending the approval process for new projects, thereby lengthening our sales cycles; and
- designers may be reluctant to take on the added responsibility of incorporating embedded test technology as part of their design process, or to learn how to implement embedded test technology.

The current economic downturn and uncertainty in the global economy and effects on the industries into which we sell our products impacted our customers research and development budgets and harmed our business and operating results.

The worldwide economy is currently undergoing significant turmoil, which together with uncertainty about future economic conditions, has negatively impacted our customers, and can cause our customers to postpone their decision making and decrease their spending. Our sales are dependent upon capital spending trends and new design projects, and a substantial portion of our costs are fixed in the near term. The demand from our customers is uncertain and difficult to predict. Slower growth in the semiconductor and systems markets such as postponed or canceled capital expenditures for previously planned expansions or new fabrication facility construction projects, a reduced number of design starts, reduction of design and test budgets or continued consolidation among our customers would harm our business and financial condition.

The primary customers for semiconductors that incorporate our embedded test technology are companies in the automotive, consumer, communications, medical products, networking and server products industries. The current economic downturn and a downturn in these particular markets or in general economic conditions could result in the cutback of research and development budgets or capital expenditures, which would likely result in a reduction in demand for our products and services and could harm our business. If the economy declines as a result of economic, political or social turmoil, existing and prospective customers may further reduce their design budgets or delay implementation of our products, which could harm our business and operating results.

We are subject to the cyclical nature of the semiconductor and electronics industries, and any downturn in these industries could harm our business, operating results and financial condition.

In addition to the effects of macroeconomic factors, the markets for semiconductor products are cyclical. In recent years, most countries have experienced significant economic difficulties. These difficulties triggered a significant downturn in the semiconductor market, resulting in reduced budgets for chip design tools. In addition, the electronics industry has historically been subject to seasonal and cyclical fluctuations in demand for its products, and this trend may continue in the future. These industry downturns have been, and may continue to be, characterized by diminished product demand, excess manufacturing capacity and subsequent erosion of average selling prices. As a result, our future operating results may reflect substantial fluctuations from period to period as a consequence of these industry patterns, general economic conditions affecting the timing of orders from customers and other factors. Any negative factors affecting the semiconductor industry, including the downturns described here, could significantly harm our business, financial condition and results of operations.

We have a history of losses and an accumulated deficit of approximately $103.3 million as of December 31, 2008. If we do not generate sufficient net revenue in the future to achieve or sustain profitability, our stock price could decline.

We have incurred significant net losses since our inception, including losses of $3.5 million, $3.7 million and $7.1 million for the years ended December 31, 2008, 2007 and 2006, respectively. At December 31, 2008, we had an accumulated deficit of approximately $103.3 million. We expect our future revenues to be impacted by our long sales cycle and our revenue recognition policies, and we expect to continue to invest in our research and development projects as well as service operations required to support our business development activities. These product and business development expenditures as well as other operating expenses could continue to exceed our revenues, thus preventing us from achieving and maintaining profitability. To achieve and maintain profitability, we will need to generate and sustain substantially higher revenues while maintaining reasonable cost and expense levels. If we fail to achieve profitability within the time frame expected by securities analysts or investors and our cash balances continue to decline, the market price of our common stock will likely decline. We may not achieve profitability if our revenues do not increase or if they increase more slowly than we expect. In addition, our operating expenses are largely fixed, and any shortfall in anticipated revenues in any given period could harm our operating results.

The sales and implementation cycles for our products are typically long and unpredictable, taking from three months to one year or longer for sales and an additional one to six months for implementation. As a result, we may have difficulty predicting future revenues and our revenues and operating results may fluctuate significantly, which could cause our stock price to fluctuate.

Our sales cycle has ranged from three months to one year or longer and our customers implementation cycle has been approximately an additional one to six months. We believe that convincing a potential customer to integrate our technology into an integrated circuit at the design stage, which we refer to as a design win, is critical to retaining existing customers and to obtaining new customers. However, acceptance of our embedded test technology generally involves a significant commitment of resources by prospective customers and a fundamental change in their method of designing and testing integrated circuits. Many of our potential customers are large enterprises that generally do not adopt new design methodologies quickly. Also, we may have limited access to the key decision-makers of potential customers who can authorize the adoption of our technology. As a result, the period between our initial contact with a potential customer and the sale of our products to that customer, if any, is often lengthy and may include delays associated with our customers budgeting and approval processes, as well as a substantial investment of our time and resources. We have incurred high customer engagement and support costs, including sales commissions, and the failure to manage these costs could harm our operating results.

If we fail to achieve a design win with a potential customer early in a given product cycle, it is unlikely that the potential customer will become a customer before its next product cycle, if at all. Because of the length of our sales cycle, our failure to achieve design wins could have a material and prolonged adverse effect on our sales and revenue growth. Our revenue streams may fluctuate significantly due to the length of our sales cycle, which may make our future revenues difficult to project and may cause our stock price to fluctuate.

If a customer cancels its order or defaults on payment or if we renegotiate an existing order, we may be unable to recognize revenue from backlog, which could have a material adverse effect on our financial condition and results of operations.

A significant portion of the orders in our backlog provides customers with cancellation rights or is recognized as revenue when payment is due. In addition, some orders extend over periods ranging up to thirty-six months. If a customer cancels its order or delays its contractual payments we may not be able to realize revenue from backlog in the time frame expected or at all. Also, it is possible that customers from whom we expect to derive revenue from backlog will default, and as a result we may not be able to recognize expected revenue from backlog. If a customer defaults or fails to pay amounts owed, or if the level of defaults increases, our bad debt expense is likely to increase. Additionally, our customers may seek to renegotiate pre-existing contractual commitments. If the current economic downturn is prolonged, our customers financial condition and, in turn, their ability or willingness to fulfill their contractual obligations to us could be adversely affected. Any material payment default by our customers would harm our financial condition and results of operations.

Fluctuations in our revenues and operating results could cause the market price of our common stock to decline.

Our revenues and operating results have fluctuated from quarter to quarter in the past and may do so in the future, which could cause the market price of our common stock to decline. Accordingly, quarter-to-quarter comparisons of our results of operations may not be an indication of our future performance. In future periods, our revenues and results of operations may be below the estimates of public market analysts and investors. This discrepancy could cause the market price of our common stock to decline.

Fluctuations in our revenues and operating results may be caused by:

- timing, terms and conditions of customer agreements;
- customers placing orders at the end of the quarter;
- the mix of our license and service revenues;
- timing of customer usage of our technology in their product designs and the recognition of revenues therefrom when amounts are due based on design usage;
- timing of sales commission expenses and the recognition of license revenues from related customer agreements;
- changes in our and our customers development schedules and levels of expenditures on research and development;
- industry patterns and changes or cyclical and seasonal fluctuations in the markets we target;
- timing and acceptance of new technologies, product releases or enhancements by us, our competitors or our customers;
- timing and completion of milestones under customer agreements; and
- market and general economic conditions.

Delays or deferrals in purchasing decisions by our customers may increase as we develop new or enhanced products. Our current dependence on a small number of customers increases the revenue impact of each customers actions relative to these factors. Our expense levels are based, in large part, on our expectations regarding future revenues, and as a result net income (loss) for any quarterly period in which material customer agreements are delayed could vary significantly from our budget projections.

The accounting rules regarding revenue recognition may cause fluctuations in our revenues independent of our order position.

The accounting rules we are required to follow require us to recognize revenues only when certain criteria are met. As a result, for a given quarter it is possible for us to fall short in our revenues and/or earnings estimates even though total orders are according to our plan or, conversely, to meet our revenues and/or earnings estimates even though total orders fall short of our plan, due to revenues resulting from the recognition of previously deferred revenues. Orders for software support and consulting services yield revenues over multiple quarters, rather than at the time of sale. The specific terms agreed to with a customer and/or any changes to the rules interpreting such terms may have the effect of requiring deferral of product revenues in whole or in part or, alternatively, of requiring us to accelerate the recognition of such revenues for products to be used over multiple years.

Intense competition in the semiconductor and systems industries, particularly in the design and test of semiconductors, could prevent us from increasing or sustaining our revenues and prevent us from achieving or sustaining profitability.

The semiconductor and systems industries are extremely competitive and characterized by rapidly changing technology. The market for embedded test solutions is still evolving, and we expect competition to become more intense in the future. Our current principal competitors in the design phase of product development include:

- electronic design automation providers such as Cadence Design Systems, Inc., Magma Design Automation Inc., Mentor Graphics Corporation and Synopsys, Inc., all of which offer basic built-in self-test capability;
- smaller test tool providers;
- potential customers that develop test solutions internally; and
- integrated device manufacturers, such as International Business Machines Corporation, that use their own test solutions in chips manufactured for and sold to others.

Our embedded test technology also has the potential to impact the automated test equipment market, which may place us in competition with traditional hardware tester manufacturers such as Advantest Corporation, LTX-Credence Corporation, Teradyne, Inc. and Verigy Ltd. As embedded test becomes adopted more widely in the market, any of these automated test equipment companies, or others, may offer their own embedded test solutions. Most of our competitors in electronic design automation and external test equipment businesses are significantly larger than we are and have greater financial resources, greater name recognition and longer operating histories than we have. Some of our competitors offer a more comprehensive range of products covering the entire design flow and complete external test flow, and they may be able to respond more quickly or adjust prices more effectively to take advantage of new opportunities or customer requirements. In addition, all of the tester manufacturers listed above participate in our LVReady partner program through which our embedded test access software is integrated into their test platform, which may provide them with additional insight into our business and technology. Increased competition in the semiconductor industry could result in pricing pressures, reduced sales, reduced margins or failure to achieve or maintain widespread market acceptance, any of which could prevent us from increasing or sustaining our revenues and achieving or sustaining profitability.

Our target markets are comprised of a limited number of customers. If we fail to obtain or retain customer relationships, our revenues could decline.

We derive a significant portion of our revenues from a relatively small number of customers. Two customers accounted for approximately 18% and 16%, respectively, of total revenues in the year ended December 31, 2008; these customers accounted for approximately 21% and 19%, respectively, of total revenues in the year ended December 31, 2007, and 26% and 18%, respectively, of total revenues for the year ended December 31, 2006. We anticipate that we will continue to rely on a limited number of customers for a substantial portion of our future revenues and we must obtain additional large orders from customers on an ongoing basis to increase our revenues and grow our business. In addition, the loss of any significant or well-known customer could harm our operating results or our reputation. In particular, a loss of a significant customer could cause fluctuations in our results of operations because our expenses are fixed in the short term, it takes us a long time to replace customers and, because of required methods of revenue recognition, any offsetting license revenues may need to be recognized over a period of time.

We have relied and expect to continue to rely on our ETCreate products for a significant portion of our revenues.

Revenues from sales of our ETCreate products and related maintenance and training services accounted for 79%, 87% and 79% of our total revenues for the years ended December 31, 2008, 2007 and 2006, respectively. We currently expect that revenues from our ETCreate products will continue to account for a substantial percentage of our revenues in the foreseeable future and thereafter. Our future operating results are significantly dependent upon the continued market acceptance of our products. Our business will be harmed if our products do not continue to achieve market acceptance or if we fail to develop and market improvements to our products or enhancements thereof. A decline in demand for our ETCreate products as a result of competition, technological change or other factors could harm our business.

Our products incorporate technology licensed from third parties. If any of these licenses are terminated, our ability to develop and license our products could be delayed or reduced.

We use technology, including software, which we license from third parties. If we do not maintain our existing third party technology licenses or enter into licenses for alternative technologies, we could be required to cease or delay product shipments while we seek to develop alternative technologies.

We depend on third parties to provide electronic design automation software that is compatible with our solution. If these third parties do not continue to provide compatible design products, we would need to develop alternatives, which could delay product introductions and cause our revenues and operating results to decline.

Our customers depend on electronic design automation software to design their products using our solution. We depend on the same software to develop our products. Although we have established relationships with a variety of electronic design automation vendors to gain access to this software and to assure compatibility, these relationships may be terminated with limited notice. If any of these relationships were terminated and we were unable to obtain alternative software in a timely manner, our customers could be unable to use our solution. In addition, we could experience a significant increase in development costs, our development process could take longer, product introductions could be delayed and our revenues and operating results could decline.

If automated test equipment companies are unwilling to work with us to make our technology compatible with theirs, we may need to pursue alternatives, which could increase the time it takes us to bring our solution to market and decrease customer acceptance of our technology.

Although we are presently working with a number of automated test equipment companies to achieve optimal compatibility of our technologies, these companies may elect not to work with us in the future. If automated test equipment companies are unwilling to incorporate modifications into their equipment and operating systems to allow them to work with our technology, we may need to seek alternatives. These alternatives might not provide optimal levels of test function, and pursuing these alternatives could increase the time and expense it takes us to bring our technology to market, either of which could decrease customer acceptance of our technology and cause our revenues and margins to decline.

Our future success will depend on our ability to keep pace with rapid technological advancements in the semiconductor industry. If we fail to develop and introduce new products and enhancements on a timely basis, our ability to attract and retain customers could be impaired, which would cause our operating results to decline.

The semiconductor industry is characterized by rapidly changing technology, evolving industry standards, rapid changes in customer requirements, frequent product introductions and ongoing demands for greater speed and functionality. We must continually design, develop and introduce new products with improved features to be competitive. Our products may not achieve market acceptance or adequately address the changing needs of the marketplace, and we may not be successful in developing and marketing new products or enhancements to our existing products on a timely basis. The introduction of products embodying new technologies, the emergence of new industry standards or changes in customer requirements could render our existing products obsolete and

unmarketable. We may not have the financial resources necessary to fund future innovations. If we are unable, for technical, legal, financial or other reasons, to respond in a timely manner to changing market conditions or customer requirements, our business and operating results could be seriously harmed.

Future changes in financial accounting standards, including pronouncements and interpretations of accounting pronouncements on software revenue recognition and stock-based compensation, may cause adverse unexpected revenue and expense fluctuations and affect our reported results of operations.

A change in accounting policies can have a significant effect on our reported results and may even affect our reporting of transactions completed before a change is announced. In particular, new pronouncements and varying interpretations of pronouncements on software revenue recognition and stock-based compensation have occurred with frequency, may occur in the future and could impact our revenues, expenses and results of operations. Required changes in our methods of revenue recognition could result in deferral of revenues recognized in current periods to subsequent periods or accelerated recognition of deferred revenues to current periods, each of which could cause shortfalls in meeting the expectations of investors and securities analysts. Our stock price could decline as a result of any shortfall.

For example, the adoption of SFAS 123(R), Share-Based Payment, which requires compensation costs relating to share-based payment transactions to be recognized in financial statements beginning in January 2006, had a negative impact on our results of operations and loss per share.

Accounting policies affecting many other aspects of our business, including rules relating to revenue recognition and purchase accounting for business combinations have recently been revised or are under review. Changes to those rules or the questioning of current practices may adversely affect our reported financial results or the way we conduct our business.

We are exposed to risks from legislation requiring companies to evaluate their internal control over financial reporting.

Section 404 of the Sarbanes-Oxley Act of 2002 requires our management to report on the effectiveness of our internal control over financial reporting. Our independent registered public accounting firm will be required to attest to the effectiveness of our internal control over financial reporting beginning as early as fiscal 2009. We have an ongoing program to perform the system and process evaluation and testing necessary to comply with these requirements. We expect to incur increased expense and to devote additional management resources to Section 404 compliance. In the event our chief executive officer, chief financial officer or independent registered public accounting firm determine that our internal control over financial reporting is not effective as defined under Section 404, investor perceptions of our company may be adversely affected and could cause a decline in the market price of our stock.

Compliance with changing regulation of corporate governance and public disclosure may result in additional costs.

Changes in the laws and regulations affecting public companies, including the provisions of the Sarbanes-Oxley Act of 2002 and recent SEC and Nasdaq rules and regulations, are creating new duties and requirements for us and our executives, directors, attorneys and our independent registered public accounting firm. In order to comply with these rules, we will have to incur additional costs for personnel and use additional outside legal, accounting and advisory services, which will increase our operating expenses. Management time associated with these compliance efforts necessarily reduces time available for other operating activities, which could adversely affect operating results. To date, our costs to comply with these rules have not been significant; however, we cannot predict or estimate the amount of future additional costs we may incur or the timing of such costs.

Our products may have errors or defects that users identify after deployment, which could harm our reputation and our business.

Our products may contain undetected errors when first introduced or when new versions or enhancements are released. We have from time to time found errors in versions of our products, and we may find errors in our products in the future. The occurrence of errors could cause sales of our products to decline, divert the attention of management and engineering personnel from our product development efforts and cause significant customer relations problems. Customer relations problems could damage our reputation, hinder market acceptance of our products and result in loss of future revenues.

We must continually attract and retain engineering personnel, or we will be unable to execute our business strategy.

Our strategy for encouraging the adoption of our technology requires that we employ highly skilled engineers to develop our products and work with our customers. In the past, we have experienced difficulty in hiring and retaining highly skilled engineers with appropriate qualifications to support our business. As a result, our future success depends in part on our ability to identify, attract, retain and motivate qualified engineering personnel. Competition for qualified engineers is intense, especially in the Silicon Valley where our headquarters are located. If we lose the services of a significant number of our engineers and we cannot hire and integrate additional engineers, it could disrupt our ability to develop our products and implement our business strategy.

We may be unable to replace the technical, sales, marketing and managerial contributions of key individuals.

We depend on our senior executives, our research and development personnel and our sales and marketing personnel, all of whom are critical to our business. We do not have long-term employment agreements with our key employees nor do we maintain a key person life insurance policy on any of our key employees. If we lose the services of any of these key executives, our product development processes and sales efforts could be slowed. We may also incur increased operating expenses and be required to divert the attention of other senior executives to search for their replacements. The integration of any executives or new personnel could disrupt our ongoing operations.

If we fail to protect our intellectual property rights, competitors may be able to use our technologies, which could weaken our competitive position, reduce our revenues or increase our costs.

Our success and ability to compete depend largely upon the protection of our proprietary technology. We rely on a combination of patent, copyright, trademark and trade secret laws, confidentiality procedures and licensing arrangements to establish and protect our proprietary rights. Our pending patent applications may not result in issued patents, and our existing and future patents may not be sufficiently broad to protect our proprietary technologies. Policing unauthorized use of our products is difficult and we cannot be certain that the steps we have taken will prevent the misappropriation or unauthorized use of our technologies, particularly in foreign countries where the laws may not protect our proprietary rights as fully as U.S. laws. Any patents we obtain or license may not be adequate to protect our proprietary rights. Our competitors may independently develop similar technology, duplicate our products or design around any patents issued to us or our other intellectual property rights.

Litigation may be necessary to enforce our intellectual property rights or to determine the validity or scope of the proprietary rights of others. As a result of any such litigation, we could lose our proprietary rights and incur substantial unexpected operating costs. We may need to take legal action to enforce our proprietary rights in the future. Any action we take to protect our intellectual property rights could be costly and could absorb significant management time and attention. In addition, failure to adequately protect our trademark rights could impair our brand identity and our ability to compete effectively.

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

In any dispute involving our patents or other intellectual property, our licensees could also become the target of litigation. This could trigger technical support and indemnification obligations in some of our license

agreements which could result in substantial expenses. In addition to the time and expense required for us to support or indemnify our licensees, any such litigation could severely disrupt or shut down the business of our licensees, which in turn could hurt our relations with our customers and cause our revenues to decrease.

Failure to obtain export licenses could harm our business.

We must comply with U.S. Department of Commerce regulations in shipping our software and hardware products and other technologies outside the United States. Although we have not had any significant difficulty complying with these regulations to date, any significant future difficulty in complying could harm our business, operating results and financial condition.

We have limited control over third-party representatives who market, sell and support our products in foreign markets. Loss of these relationships could decrease our revenues and harm our business.

We offer our products and services for sale through distributors and sales representatives in China, France, Germany, India, Israel, Japan, Korea, the UK and Sweden. We anticipate that sales in these markets will account for a portion of our total revenues in future periods. In 2005, we appointed a sales representative in Israel and distributors in France and the UK. In 2006, we appointed a sales representative in India. In 2007, we appointed a new distributor in Japan, augmenting our direct sales organization. In 2008, we appointed a new distributor in China, and two new sales representatives in Europe. Our third-party representatives are not obligated to continue selling our products, and they may terminate their arrangements with limited prior notice. Growing our relationship with these new distributors and sales representatives, or establishing alternative distribution channels in these markets could consume substantial management time and resources, decrease our revenues and increase our expenses.

We face business, political and economic risks because a portion of our revenues and operations are outside of the United States.

International revenues accounted for 30%, 25% and 16% of our total revenues for the years ended December 31, 2008, 2007 and 2006, respectively. In addition to our international sales, we have operations in Canada, Japan and the UK. Our success depends upon continued expansion of our international operations, and we expect that international revenues will continue to be an important component of our total future revenues. Our international business involves a number of risks, including:

- our ability to adapt our products to foreign design methods and practices;
- the uncertainty of international orders due to typically lengthy international selling cycles;
- cultural differences in the conduct of business;
- difficulty in attracting qualified personnel;
- managing foreign branch offices and subsidiaries;
- longer payment cycles for and greater difficulty collecting accounts receivable;

- unexpected changes in regulatory requirements, royalties and withholding taxes that restrict the repatriation of earnings;
- tariffs and other trade barriers;
- the burden of complying with a wide variety of foreign laws; and
- political, economic, health or military conditions associated with worldwide conflicts and events.

As a result of our direct selling activities in Japan, a portion of our international revenues is denominated in Japanese yen, which is subject to exposure from movements in foreign currency exchange rates. In addition, most of our remaining international revenues are denominated in U.S. dollars, creating a risk that fluctuation in currency exchange rates will make our prices uncompetitive. To the extent that profit is generated or losses are incurred in foreign countries, our effective income tax rate may be significantly affected. Any of these factors could significantly harm our future international sales and, consequently, our revenues and overall results of operations and business and financial condition.

We may be unable to consummate future potential acquisitions or investments or successfully integrate acquired businesses or investments or foreign operations with our business, which may disrupt our business, divert management's attention and slow our ability to expand the range of our proprietary technologies and products.

We may expand the range of our proprietary technologies and products, acquire or make investments in additional complementary businesses, technologies or products, if appropriate opportunities arise. For example, in 2004, we completed the acquisition of SiVerion, Inc. We may be unable to identify suitable acquisition or investment candidates at reasonable prices or on reasonable terms, or consummate future acquisitions or investments, each of which could slow our growth strategy. Our acquisition of SiVerion, Inc. and any future acquisitions may involve risks such as the following:

- we may not achieve the anticipated benefits of the acquisitions;
- our acquisition and integration costs may be higher than we anticipated and may cause our quarterly and annual operating results to fluctuate;
- we may be unable to retain key employees, such as management, technical or sales personnel, of the acquired businesses;
- we may experience difficulty and expense in assimilating the operations and personnel of the acquired businesses, which could be further affected by the acquired businesses not being located near our existing sites;
- we may incur amortization or impairment expenses if an acquisition results in significant goodwill or other intangible assets;
- we may be unable to complete the development and application of the acquired technology or products or integrate the technology or products with our own;
- we may be exposed to unknown liabilities of acquired companies;
- we may experience difficulties in establishing and maintaining uniform standards, controls, procedures and policies;
- our relationships with key customers of acquired businesses may be impaired, due to changes in management and ownership of the acquired businesses; or
- our stockholders may be diluted if we pay for the acquisition with equity securities.

These factors could disrupt our ongoing business, distract our management and employees and increase our expenses or otherwise harm our operating results.

Intellectual property litigation, which is common in our industry, could be costly, harm our reputation, limit our ability to license or sell our proprietary technologies or products and divert the attention of management and technical personnel.

The semiconductor industry is characterized by frequent litigation regarding patent and other intellectual property rights. While we have not received formal notice of any infringement of the rights of any third party, questions of infringement in the semiconductor field involve highly technical and subjective analyses. Litigation may be necessary in the future to enforce any patents we may receive and other intellectual property rights, to

protect our trade secrets, to determine the validity and scope of the proprietary rights of others, or to defend against claims of infringement or invalidity, and we may not prevail in any future litigation. Any such litigation, whether or not determined in our favor or settled, could be costly, could harm our reputation and could divert the efforts and attention of our management and technical personnel from normal business operations. Adverse determinations in litigation could result in the loss of our proprietary rights, subject us to significant liabilities, require us to seek licenses from third parties or prevent us from licensing our technology or selling our products, any of which could harm our business.

Our stock price may decline significantly because of stock market fluctuations that affect the prices of technology stocks. A decline in our stock price could result in securities class action litigation against us that could divert management's attention and harm our business.

The stock market has experienced significant price and trading volume fluctuations that have adversely affected the market prices of common stock of technology companies. These broad market fluctuations may reduce the market price of our common stock. In the past, securities class action litigation has often been brought against a company after periods of volatility in the market price of securities. In the future, we may be a target of similar litigation. Securities litigation could result in substantial costs and divert our management's attention and resources, which in turn could harm our ability to execute our business plan.

Our stock may fail to meet the requirements for continued listing on The Nasdaq Capital Market, in which case the price and liquidity of our common stock may decline. The reverse stock split of our common stock may reduce the liquidity of our common stock, and the market price of our common stock may decline.

We are subject to the continued listing requirements of The Nasdaq Capital Market, which include a $1.00 minimum closing bid price requirement. When we transferred from The Nasdaq Global Market to The Nasdaq Capital Market, we were not in compliance with this minimum closing bid price requirement. Effective March 12, 2008, we implemented a 1-for-2.5 reverse stock split of our common stock. On March 31, 2008, we received a notice from The Nasdaq Stock Market stating that, because the closing bid price of our common stock had been at $1.00 per share or greater for at least 10 consecutive business days, we had regained compliance. We cannot assure you, however, that we will be able to continue to maintain compliance with the minimum bid price requirement. If we fail to maintain compliance with the minimum bid price requirement and are delisted, our financial condition could be harmed and our stock price would likely decline. The reverse stock split reduced the number of shares of our common stock outstanding, which could adversely affect the liquidity of our common stock, which could adversely affect the market price of our common stock.

Our ability to raise capital in the future may be limited and our failure to raise capital when needed could prevent us from growing.

We believe that our existing cash resources and available debt financing will be sufficient to meet our anticipated cash needs for at least the next 12 months. However, the timing and amount of our working capital and capital expenditure requirements may vary significantly depending on numerous factors, including:

- the level and timing of license and service revenues;
- the costs and timing of expansion of product development efforts and the success of these development efforts;
- the extent to which our existing and new products gain market acceptance;
- the costs and timing of expansion of sales and marketing activities;
- competing technological and marketing developments;
- the extent of international operations;

- the need to adapt to changing technologies and technical requirements;
- the costs involved in maintaining and enforcing patent claims and other intellectual property rights;
- the existence of opportunities for expansion and for acquisitions of, investments in, complementary businesses, technologies or product lines; and
- access to and availability of sufficient management, technical, marketing and financial personnel.

If our capital resources are insufficient to satisfy our liquidity requirements, we may seek to sell additional equity securities or debt securities or obtain debt financing. The sale of additional equity securities or debt securities would result in additional dilution to our stockholders. Additional debt would result in increased expenses and could result in covenants that would restrict our operations. If adequate funds are not available or are not available on acceptable terms, this would significantly limit our ability to hire, train or retain employees, support our expansion, take advantage of unanticipated opportunities such as acquisitions of businesses or technologies, develop or enhance products, or respond to competitive pressures.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our principal executive offices are located in San Jose, California, where we lease approximately 18,000 square feet. We believe that these offices will be adequate to meet our requirements for the next 12 months. We have a research and development office in Ottawa, Canada. We have domestic sales and service representatives in Massachusetts, sales representatives in southern California and Texas, and engineering personnel in Arizona and Oregon. In addition, we have an international sales and service office in Japan and a customer service office in the UK. In December 2008, we exited out of our Massachusetts office and reduced the utilized space leased in San Jose, California.

Item 3. Legal Proceedings

We are not currently a party to any material legal proceedings.

Item 4. Submission of Matters to a Vote of Security Holders

None.

Executive Officers of the Registrant