LOGICVISION INC
Form 10-K
March 11, 2003
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2002

OR

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

For the transition period from _____ to _____

Commission File Number: 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.)**
101 Metro Drive, Third Floor	**(408) 453-0146**

San Jose, California 95110
(Address of principal executive offices) **(Registrant s telephone number,**

including area code)

Securities registered to Section 12(b) of the Act: None

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

Common Stock, par value $0.0001 per share

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 ¨

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. ¨

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act).

Yes ¨ 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 National Market on June 30, 2002) was approximately $62.6 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 February 28, 2003, there were 15,297,965 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) and 13 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 2003 Annual Meeting of Stockholders to be held on May 15, 2003.

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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 iden 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, marketing and commercialization of our products under development, our expectations regarding future revenues, fluctuations in future operating results and future expenses, our estimates regarding our capital requirements and our needs for additional financing, use of our working capital, plans for future products and services and for enhancements of existing products and services, our patent applications and licensed technology regarding our products and technology, the adequacy of our facilities, the outcome of litigation, expectations regarding dividends, our efforts to enter into technology development contracts and develop relationships with industry partners, the expected benefits of those contracts and relationships, our competitive position, our ability to attract customers and establish license agreements, and sources of revenue and anticipated revenues, including licenses of our intellectual property and software, technology development and design contracts and postcontract customer support, and the continued viability and duration of those agreements. 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, those risks discussed below, as well as the seasonality of the buying patterns of our customers, the concentration of sales to large customers, 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 Item 7, Management s Discussion and Analysis of Financial Condition and Results of Operations Factors That May Affect Results. 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 the sections of this report entitled Business and Management s Discussion and Analysis of Financial Condition and Results of Operations Factors That May Affect Results, 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

Our proprietary technologies for embedded test enable the more efficient design and manufacture of complex semiconductors by allowing integrated circuit designers to embed into a semiconductor design test functionality that addresses each key stage of a complex semiconductor s life cycle. We incorporated in July 1992 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. We believe our solution can reduce a customer s time-to-market, reduce manufacturing costs, improve manufacturing yields and reduce system software complexity. Our solution also allows testing of integrated circuits after they have been assembled onto boards and systems, which enables diagnostic test throughout the product s life cycle. Our embedded test solution has been successfully deployed in complex semiconductors for gigabit switches, voice and data routers, high performance servers and wireless products. Our proprietary technology enables semiconductor companies to embed self-testers into the chip design.

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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 issues.

We were incorporated as LV Software, Inc. in California in July 1992. In June 1996, we changed our corporate name to LogicVision, Inc. We reincorporated in Delaware in September 2000.

Recent Developments

In June 2002, we introduced a desktop silicon debug solution, the LogicVision Validator, for at-speed debug of silicon chips incorporating our embedded test technologies. We believe the LogicVision Validator in combination with our embedded test technology can save weeks to months in time-to-market by reducing the debug time for our customers new chips prior to their release to volume production.

In July 2002, we entered into a Business Transfer Agreement with our then distributor in Japan. Pursuant to this agreement, we acquired certain fixed assets, customer lists, transitional services and a covenant not to compete for a period of one year. The aggregate purchase price of the transaction was $1.9 million.

In July 2002, we established LogicVision Japan KK, a wholly owned subsidiary in Japan to provide direct sales and customer service to our Japanese customers.

In November 2002, we established LogicVision India Private Limited, a wholly owned subsidiary in India to provide customer service and product development.

Technology

Embedded test

We believe that embedded test technology provides significant benefits for the new and complex systems-on-a-chip 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 solution eliminates 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. The LogicVision Validator combines the embedded test manufacturing software with a low-cost rack of test equipment to create a self-contained

test and debug environment. 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 algorithmically generate and analyze circuit test data; and

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external control standard IEEE 1149.1 compliant test access port 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 return from fabrication for 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, including the LogicVision Validator. Our embedded testers 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 testers and embedded test manufacturing software are used again for final test. Our embedded test circuits are designed to be activated with simple external test signals applied through the industry standard IEEE 1149.1 test access port.

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, 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;

manufacturing automation for simplified access and control of embedded test circuits on test equipment;

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.

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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, input/outputs, phased-locked-loops, cores, hierarchical blocks and interconnect.

Design Software products

We provide a suite of highly integrated embedded test design software products for embedded test implementation on application specific integrated circuits and system-on-a-chip 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.

LogicVision Validator product

We provide the LogicVision Validator product for use as a prototype chip debug and characterization platform for design engineers. The LogicVision Validator combines computers, power supplies and clock generators with the embedded test manufacturing software to create a complete solution for chip debug. The hardware portion of this product is manufactured and assembled by a third party for LogicVision.

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Product offerings

We currently offer our embedded test circuits, design software and manufacturing software in a variety of product bundles. Our key embedded test products and their capabilities are described below.

Products	Applications
Chip Test Assemble	Embedded test intellectual property for IEEE 1149.1 Test Access Port and Boundary Scan functionality. Automates the integration and control of all embedded test functions in a given integrated circuit. Can support up to 2048 scan chains and 30 embedded test controllers per design. Includes manufacturing tools for integrated circuit and system test and diagnosis of input/outputs.
IC Memory BIST	Provides intellectual property for flexible, area-optimized, at-speed, memory embedded test functionality. Supports single and multiport 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.
Logic BIST	Provides intellectual property for at-speed, multi-frequency logic self-test and scan test functionality. Automates analysis, generation, assembly and verification of logic test intellectual property. Supports high-speed multiple clock domains, including those in excess of 100 megahertz, pipelining and multi-cycle paths.
Embedded Logic Test	Embedded test intellectual property for hierarchical, at-speed, embedded logic core test functionality. 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.
Core Test	Provides intellectual property for direct test access and isolation of legacy core functionality. Automates generation, assembly and verification of legacy core test collars and buses. Supports a dedicated test bus per core and sharing of input/output pins for test and diagnosis. Provides manufacturing tools for integrated circuit test and diagnosis of legacy cores.
PLL BIST	Embedded test intellectual property for accurate, specification-driven test of phase-locked-loop 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.

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Products	Applications
Programmable IC Memory BIST	Provides intellectual property for runtime programmable, at-speed, memory embedded test functionality. Supports large, embedded DRAMs and high density, embedded SRAMs. Supports both standard and user-proprietary memory test algorithms. Usable during memory debug/characterization and go/no-go manufacturing test.
External Memory Test	Provides intellectual property for flexible, 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 external memory embedded test controller. Includes manufacturing tools for system-level test and diagnosis of board-level memories.
IC Debug	Provides intellectual property for facilitating interactive debug of integrated circuits by leveraging the embedded test capabilities that were added to the design. Supports interactive pass-fail testing and debug of the I/O, memory, logic and PLLs in the design. Automates the creation, modification and application of test and debug patterns on specified LogicVision-Ready automated test equipment. Provides manufacturing tools that reduce time-to-market for prototype integrated circuits.
LogicVision Validator	Bundles a rack of low-cost test equipment with the IC Debug product to facilitate the interactive debug of integrated circuits. Supports interactive test and debug of the I/O, memory, logic and PLLs in the design Automates the creation, modification and application of test and debug patterns. Integrates equipment for computing, power supplies and clock generation. Provides a complete debug platform that reduces time-to-market for prototype integrated circuits.

Services

Maintenance. We assist our customers with telephone 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. Our design services 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.

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Customers

We license our proprietary technologies and software products to companies in key markets within the semiconductor 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. During the year ended December 31, 2002, Agere Systems, Inc. and Sun Microsystems, Inc. accounted for 12% and 10% of total revenues, respectively. During the year ended December 31, 2001, no customer accounted for 10% or more of total revenues. During the year ended December 31, 2000, LSI Logic Corporation accounted for 15% of total revenues.

Seasonality

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 seasonality of the buying patterns of our customers, the concentration of sales to large customers, dependence upon capital spending budgets and fluctuations in general economic conditions. The seasonal fluctuations occur in summer and in December, primarily due to vacation seasons and winter holidays.

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 three diverse areas: integrated circuit design and verification, electronic design automation algorithms and software development, and software development for manufacturing test and test equipment. We have assembled a highly skilled and multi-disciplinary team for this purpose.

As of December 31, 2002 our engineering team comprised 32 employees, 20 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 three development groups, each focusing on one of these three 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.

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

Research and development expenses were $5.0 million, $5.1 million, and $5.0 million during the fiscal years ended December 31, 2002, 2001 and 2000, respectively.

Sales and Marketing

The majority of our revenues are generated by our direct sales force. We have sales and service offices located throughout major cities in the United States, including San Jose, Los Angeles, San Diego, Dallas and Boston. Internationally we have a sales and service office and a sales representative in Japan, and sales in other

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countries are handled by distributors or sales representatives in Taiwan, India, Israel and Singapore. International revenues as a percentage of our total revenues were approximately 21%, 27% and 19% for the years ended December 31, 2002, 2001 and 2000. Information regarding geographic areas and operating segments are included in Note 13 to the Consolidated Financial Statements in Item 8. Sales personnel consist of account managers who are responsible for all business aspects of the customer relationship and application engineers who manage all the technical pre-sales and post-sales customer support issues. As of December 31, 2002, we had 48 employees involved in sales and marketing, customer service and operations.

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 cellular, wireline and satellite communications, computer servers and graphics, and consumer electronics. Additionally, as systems companies use our technology, they often require their component suppliers to supply semiconductors with embedded test already designed in for their system use. In this way we can create both push and pull demand for our technology.

Our marketing efforts include product/technical marketing and merchandising, 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. Engineering efforts devoted to revenue-generated design and technology development projects and postcontract customer support activities are recognized as cost of revenues. The balance of sales and marketing expenses incurred for general selling and marketing activities is charged to sales and marketing expenses.

Sales and marketing expenses were $9.9 million, $9.9 million, and $8.9 million during the fiscal years ended December 31, 2002, 2001 and 2000, 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, 2002, our intellectual property portfolio consisted of 18 issued U.S. patents, three allowed U.S. patents, 31 pending U.S. patent applications, eight issued Canadian patents, 12 pending Canadian patent applications and 12 pending Patent Cooperation Treaty, or PCT, patent applications filed with the World Intellectual Property Organization and which serve as the basis of national patent filings in countries of interest. In addition, we have three pending Europe patent applications and three pending Japan 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 2022. Our portfolio also includes two patents for testing embedded memories and digital systems we have licensed from Nortel Networks, for which we completed royalty payments in October 2002. Nevertheless, our license agreement with Nortel may be terminated if we materially violate the terms of the agreement, if a competitor of Nortel acquires a significant percentage of our common stock without first obtaining Nortel s consent or if we bring patent infringement proceedings against Nortel under any patent embodied in, or acquired as a result of access to, the technology we license from Nortel. Our patents, and the Nortel patents we license, cover technology intended to address problems we consider fundamental to embedded test, such as timing, power consumption and parametric testing.

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.

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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.

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.

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. 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 or that we will find acceptable the terms of any offered licenses.

If we fail to obtain a license from a third party for proprietary technologies that we use, we could incur substantial liabilities, or be compelled suspend sales of our products or our use of processes requiring the technologies. 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 the litigation in our favor. In the event we receive an adverse result in any litigation, we could be required to pay substantial damages, stop selling of infringing products, expend significant resources to develop or acquire non-infringing technology and discontinue the use of processes requiring the infringing technology or obtain licenses to the infringing technology. We may not be successful in the development or acquisition of intellectual property, or the necessary licenses may not be available under reasonable terms, and any development, acquisition or license could require us to expend a substantial amount of time and other resources. Any of these developments would harm our business.

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 like Cadence Design Systems, Inc., Mentor Graphics Corporation and Synopsys, Inc. and from smaller test tool providers such as Syntest Technologies, Inc. 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.

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Manufacturing

Because embedded test has the potential to impact the external test market, we believe traditional hardware tester manufacturers such as Advantest Corporation, Agilent Technologies, Inc., Credence Systems Corporation, LTX Corporation, NP Test Inc., and Teradyne, Inc. 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.

Many 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, 2002, we employed 91 full time employees and one part time employee worldwide of which 62 employees were located in the United States, 20 employees were located in Canada and 10 employees were located in Asia and Europe. This included 48 in sales and marketing, 32 in research and development, and 12 in finance 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 Web site is *http://www.logicvision.com*. We make available free of charge, on or through our Web site, 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 (SEC). Information contained on our Web site is not part of this report.

Item 2. Properties

Our principal executive offices are currently located in San Jose, California, where we lease approximately 17,690 square feet. We believe that these offices will be adequate to meet our requirements for the next 12 months. We have research and development offices in Montreal and Ottawa, Canada. We have domestic sales and service offices in Del Mar and Pasadena, California; Franklin, Massachusetts; and Addison, Texas. In addition, we have an international sales and service office in Tokyo, Japan, a customer service office in London, the United Kingdom, and an engineering and service office in Bangalore, India.

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.

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Executive Officers of the Registrant

The following table sets forth information regarding our executive officers as of December 31, 2002:

Name	Age	Position
Vinod K. Agarwal	50	President, Chief Executive Officer and a director
John H. Barnet	67	Vice President of Finance and Chief Financial Officer
Michael C. Howells	40	Vice President of Engineering
Mukesh J. Mowji	44	Vice President of Sales and Marketing
Kenji Baba	49	Vice President of Engineering Services

Vinod K. Agarwal, PhD founded LogicVision in 1992 and has served as our President, Chief Executive Officer and a director since 1992. Prior to founding LogicVision, Dr. Agarwal was the Nortel/NSERC Industrial Research Chair Professor at McGill University in Montreal and served as a consultant to Nortel Networks Corporation, Hitachi, Ltd. and Eastman Kodak Company for developing their design-for-test/embedded test environment. In 1992, Dr. Agarwal was elected to be a Fellow of The Institute of Electrical and Electronics Engineers, Inc., or IEEE, for his contributions to built-in self-test and fault-tolerant computing. Dr. Agarwal is a co-inventor of several US patents on embedded test technology. He holds a BE in Electronics from Birla Institute of Technology and Science, Pilani, India, an M.S. in Electrical Engineering from University of Pittsburgh and a PhD in Electrical Engineering from Johns Hopkins University.

John H. Barnet has served as Vice President of Finance and Chief Financial Officer since September 1999, after having served as a financial consultant since January 1999. From 1996 to 1998, Mr. Barnet was Vice President of Finance and Administration and Chief Financial Officer of ESS Technology, Inc., a fabless semiconductor company. From 1992 to 1996, Mr. Barnet served as Executive Vice President, Finance and Chief Financial Officer for Trimble Navigation, Ltd., a manufacturer of global positioning satellite instruments. Prior to 1992, he held Vice President of Finance and Chief Financial Officer positions with Centex Telemanagement, Inc., Philips-Signetics Corporation, Teledyne Semiconductor and Acurex Corporation. Mr. Barnet holds a BS in Industrial Engineering from Stanford University and an MBA from Columbia University.

Michael C. Howells has served as our Vice President of Engineering since 1994 and joined us as our Director of Marketing in 1993. Prior to joining LogicVision, Mr. Howells was a Senior Product Marketing Engineer with Mitsubishi Electronics America in their application specific integrated circuit group. While at Mitsubishi, Mr. Howells was involved in marketing deep sub-micron application specific integrated circuits, as well as development of related design flows and electronic design automation tools, and was also responsible for Mitsubishi s Ottawa application specific integrated circuit design center. He holds a BEng and an MEng in Electrical Engineering from McGill University.

Mukesh J. Mowji has served as our Vice President of Sales and Marketing since April 2002. From January 2002 to March 2002, he served as our Vice President of Marketing. From August 2000 to January 2002, he served as our Vice President of Manufacturing Business and was responsible for business development and marketing in semiconductor manufacturing. From 1988 to 2000 Mr. Mowji held various senior positions in marketing, sales, and field operations at LTX Corporation, and, from 1979 to 1988, Mr. Mowji held various senior positions in engineering, operations and sales with the test equipment division of Schlumberger Limited s test equipment business. He holds a BS in Electrical Engineering from San Francisco State University.

Kenji Baba has served as our Vice President of Engineering Services since July 2002. From 1977 to 2002, Mr. Baba held various management positions in marketing and engineering at Mitsubishi Electric & Electronics America, Inc. While at Mitsubishi, he served as Director of SLIC Marketing responsible for managing marketing activities for North America division of Mitsubishi. He holds a BSEE and MSEE in Electrical Engineering from Okayama University, Japan.

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PART II

Item 5. Market for Registrant s Common Equity and Related Stockholder Matters

Our common stock, par value $0.0001 (Common Stock), is traded on the Nasdaq National Market (Nasdaq) under the symbol LGVN. The following table sets forth, for the periods indicated, the range of high and low sales prices for the Common Stock on Nasdaq, since October 31, 2001, the date of our initial public offering, as reported by the Nasdaq.

	High	Low
2002		
First Quarter	$ 15.45	$ 6.56
Second Quarter	$ 11.30	$ 3.97
Third Quarter	$ 5.38	$ 1.98
Fourth Quarter	$ 3.03	$ 1.60
2001		
Fourth Quarter (since October 31, 2001)	$ 14.68	$ 9.00

As of February 28, 2003, the Common Stock was held by 109 stockholders of record. Because many of the shares of our Common Stock are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of beneficial owners represented by these stockholders of record. We have never declared or paid dividends on our capital stock and do not currently intend to pay any cash dividends on our Common Stock in the foreseeable future. We expect to retain future earnings, if any, to fund the development and growth of its business. Our board of directors will determine the amount and timing of future dividends, if any. Our current bank loan agreement prohibits the payment of cash dividends without the approval of the bank.

Use of Proceeds from Sales of Registered Securities

On November 5, 2001, we closed the sale of a total of 4,500,000 shares of our Common Stock at a price of $9.00 per share in a firm commitment underwritten public offering. In connection with the offering, we granted an option to the underwriters to purchase up to an additional 675,000 shares for up to 30 days after the offering to cover over-allotments, if any. On November 23, 2001, we closed the sale of a total of 585,000 shares of our Common Stock pursuant to the exercise of the underwriters over-allotment option. The offering was effected pursuant to a Registration Statement on Form S-1 (File No. 333-43654), which the Securities and Exchange Commission declared effective on October 30, 2001. The managing underwriters in the offering were UBS Warburg LLC, SG Cowen Securities Corporation and Dain Rauscher Incorporated.

Of the $45,765,000 in aggregate proceeds raised by us in the offering:

1. approximately $3.2 million was paid to the underwriters in connection with the underwriting discount;

2. approximately $1.5 million was paid by us in connection with offering expenses, printing fees, listing fees, filing fees, accounting fees and legal fees; and

3. the remainder of the proceeds from the offering has been invested in interest bearing, investment grade marketable securities and used for general corporate purposes, including working capital and capital expenditures. As of December 31, 2002, approximately $21.3 million was invested in money market funds and short-term U.S. government securities and approximately $18.4 million was invested in long-term U.S. government securities.

Securities Authorized for Issuance Under Equity Compensation Plans

Information regarding the Securities Authorized for Issuance under our Equity Compensation Plans can be found under Item 12 of this Annual Report on Form 10-K.

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Item 6. Selected Consolidated Financial Data

The following selected consolidated financial data are qualified by reference to, and should be read in conjunction with, Management s Discussion and Analysis of Financial Condition and Results of Operations and the Consolidated Financial Statements and related Notes included in Item 8 of this Report. The selected consolidated balance sheet data as of December 31, 2002 and 2001 and selected consolidated statements of operations data for the years ended December 31, 2002, 2001 and 2000, are derived from our audited consolidated financial statements included elsewhere in this Report. The selected consolidated balance sheet data as of December 31, 2000, 1999 and 1998 and the selected consolidated statements of operations data for the years ended December 31, 1999 and 1998 were derived from audited consolidated financial statements not included in this Report. Our historical results are not necessarily indicative of our future results.

	Years Ended December 31,				
	2002	2001	2000	1999	1998
	(in thousands, except per share data)				
Consolidated statements of operations data					
Revenues:					
License	$ 10,177	$ 12,079	$ 5,597	$ 4,096	$ 2,165
Service	5,308	5,153	3,686	1,344	851
Royalties	70				
Total revenues	15,555	17,232	9,283	5,440	3,016
Cost of revenues:					
License	962	803	583	214	400
Service	3,421	2,141	1,955	1,080	620
Total cost of revenues	4,383	2,944	2,538	1,294	1,020
Gross profit	11,172	14,288	6,745	4,146	1,996
Operating expenses:					
Research and development	5,007	5,093	4,987	4,519	4,373
Sales and marketing	9,914	9,947	8,930	5,434	4,378
General and administrative	4,153	2,768	4,012	2,060	1,503
Amortization of deferred stock-based compensation (2)	1,612	2,859	2,106	367	214
Total operating expenses	20,686	20,667	20,035	12,380	10,468
Loss from operations	(9,514)	(6,379)	(13,290)	(8,234)	(8,472)
Interest income	1,099	366	583	155	260
Other income (expense), net	24	(6)		(16)	18
Loss before provision for income taxes	(8,391)	(6,019)	(12,707)	(8,095)	(8,194)
Provision for income taxes	113	124	9	3	5
Net loss	(8,504)	(6,143)	(12,716)	(8,098)	(8,199)
Accretion of redeemable convertible preferred stock		130	173	173	
Net loss attributable to common stockholders	$ (8,504)	$ (6,273)	$ (12,889)	$ (8,271)	$ (8,199)

Net loss per share, basic and diluted (1)	$ (0.57)	$ (1.54)	$ (7.79)	$ (6.29)	$ (7.41)
Weighted average common shares, basic and diluted (1)	15,002	4,063	1,654	1,315	1,106

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	December 31,				
	2002	2001	2000	1999	1998
			(in thousands)		
Consolidated balance sheet data					
Cash and cash equivalents and short-term investments	$ 23,171	$ 34,496	$ 9,708	$ 3,170	$ 2,100
Marketable securities	18,390	11,984			
Working capital	17,055	31,373	5,708	1,471	904
Total assets	46,525	52,732	15,170	7,510	3,993
Total redeemable convertible preferred stock			46,071	31,765	24,209
Stockholders equity (deficit)	37,795	44,240	(39,822)	(29,500)	(22,668)
Cash dividends declared per common stock					

(1) The diluted net loss per share computation excludes potential shares of common stock (redeemable convertible preferred stock, options to purchase common stock and warrants to purchase common stock), as their effect would be antidilutive.

(2) Amortization of deferred stock-based compensation:

	Years Ended December 31,				
	2002	2001	2000	1999	1998
			(in thousands)		
Total cost of revenues	$ 31	$ 115	$ 71	$ 7	$ 6
Research and development	401	801	630	103	104
Sales and marketing	843	1,453	888	155	84
General and administrative	337	490	517	102	20
	$ 1,612	$ 2,859	$ 2,106	$ 367	$ 214

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

The following discussion and analysis of the Company s financial condition and results of operations should be read in conjunction with Selected Consolidated Financial Data and the Consolidated Financial Statements and related Notes included elsewhere in this Report.

When used in this discussion, the words expects, believes, anticipates, estimates, and similar expressions are intended to identify forward-looking statements. These statements, which include statements as to our critical accounting policies, our expectations regarding future revenues, cost of revenue and expenses, 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, sources of revenue and anticipated revenues, including licenses of our intellectual property and software, technology development and design contracts and postcontract customer support, the features and benefits of our products, our business development efforts, future acquisitions or investments, the impact of economic and industry conditions on our customers, the anticipated growth of our business, our ability to attract customers and establish license agreements, customer and market demand, our growth strategy, our ability to attract and retain qualified personnel, our competitive position, our foreign currency risk strategy, and the impact of recent accounting pronouncements, 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, those risks discussed below, as well as the seasonality of the buying patterns of our customers, the concentration of sales to large customers, our 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 matters discussed in Factors That May Affect Results. 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.

Critical Accounting Policies

Our discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, we evaluate our estimates, including those related to revenue recognition, allowance for doubtful accounts, investments, income taxes, warranty obligations, long-term service contracts, and contingencies and litigation. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements.

We follow very specific and detailed guidelines in measuring revenue in accordance with the provisions of AICPA Statement of Position 97-2, Software Revenue Recognition as amended by Statement of Position 98-4 and Statement of Position 98-9; however, certain judgments affect the application of our revenue policy. We derive license revenues from software and intellectual property licenses and products, and derive service revenues from maintenance and consulting service contracts. We recognize the full amount of license fees upon shipment only when there is persuasive evidence of an arrangement, shipment has occurred, the fee is fixed or determinable, and collectibility of the sales proceeds is considered probable. When multiple elements exist and where vendor-specific objective evidence, or VSOE, of the fair value of undelivered elements such as postcontract customer support exists, we apply the residual method of accounting to the delivered elements. Our

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history of selling postcontract customer support provides VSOE of fair value of postcontract customer support through contractual renewal rates. Accordingly, because we have VSOE for the postcontract customer support sold in connection with our licenses of more than one year, we typically recognize the residual amount of the contract fee as license fee upon delivery of the software. When vendor-specific objective evidence of the fair value of the undelivered element cannot be established, and the undelivered element is postcontract customer support, all related revenues are recognized ratably over the term of our postcontract customer support obligations. As a result of this policy, because we are generally unable to establish vendor-specific objective evidence of the undelivered elements with respect to our one-year licenses, we recognize revenues from one-year licenses ratably over the license term. We also recognize the maintenance elements of all contracts ratably over the period of the maintenance contract. When we enter into a multiple element arrangement which includes the future delivery of a specified product or upgrade, all revenues under the agreement are deferred until the specified product or upgrade has been delivered. Consulting service revenues are generally recognized on a percentage of completion basis. On occasion, we offer extended payment terms beyond our normal business practice of between 30 and 60 days to certain customers. We do not have sufficient experience collecting under these extended payment term arrangements. As a result, when payment terms are extended, the fee is not considered fixed or determinable and, therefore, we recognize revenues when those payments become due.

We maintain allowances for doubtful accounts for estimated losses resulting from the inability of our customers to make required payments. If the financial condition of our customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances may be required.

We record an investment impairment charge when we believe an investment has experienced a decline in value that is other than temporary. Future adverse changes in market conditions or poor operating results of underlying investments could result in losses or an inability to recover the carrying value of the investments that may not be reflected in an investment s current carrying value, thereby possibly requiring an impairment charge in the future.

We record a valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. While we have considered future taxable income and ongoing prudent and feasible tax planning strategies in assessing the need for the valuation allowance, in the event we were to determine that we would be able to realize our deferred tax assets in the future in excess of our net recorded amount, an adjustment to the deferred tax asset would increase net income in the period such determination was made.

Overview

We provide proprietary technologies for embedded test that enable the more efficient design and manufacture of complex semiconductors. Our embedded test solution allows integrated circuit designers to embed into a semiconductor design test functionality that can be used during semiconductor production and throughout the useful life of the chip. In addition, our solutions allow integrated circuits to be tested after they have been assembled onto boards and systems, which enables diagnostic tests throughout the product s life.

Our proprietary technology enables semiconductor companies to embed self-testers into the chip design. 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 issues. In June 2002, we introduced a desktop silicon debug solution, named LogicVision Validator, for at-speed debug of silicon chips incorporating our embedded test technologies. We believe the LogicVision Validator in combination with our embedded test technology can save weeks to months in time-to-market by reducing the debug time for our customers new chips prior to their release to volume production.

From 1995 to 1998, most of our customers were large systems companies that used our technology in their application specific integrated circuits as part of systems development and diagnostics. Beginning in 1998, we expanded our customer base to include semiconductor companies that use our technology for complex chip

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development and testing. We license our intellectual property and software through our direct sales force in the U.S. and Japan, and through our distributors or sales representatives in Japan, Taiwan, India, Israel and Singapore.

In June 2002, we entered into a Share Purchase Agreement to acquire all of the outstanding shares of PurpleVision Technologies Private Limited for an aggregate purchase price of $1.5 million in cash. In October 2002, the Share Purchase Agreement was terminated in accordance with its terms. Under the agreement, if the purchase transaction was not completed by October 7, 2002, the agreement was terminated. We recognized a charge of $196,000 for professional fee expenses associated with the negotiation and termination of the agreement.

In July 2002, we entered into a Business Transfer Agreement with our then distributor in Japan. Pursuant to this agreement, we acquired certain fixed assets, customer lists, transitional services and a covenant not to compete (non-competition agreement) for a period of one year. We accounted for the acquisition as a purchase. The aggregate purchase price of the transaction was $1.9 million. The purchase price includes professional fees and other direct costs of the acquisition totaling $58,000. Based on an independent third-party valuation analysis, we allocated $620,000 to transitional services from July 18, 2002 to December 31, 2002 and $1.3 million to the non-competition agreement over the period of benefit which ends on July 17, 2003.

Beginning in the second quarter and continuing through the fourth quarter of fiscal 2002, adverse general economic conditions and conditions in the semiconductor industry resulted in a substantial decrease in revenues. We expect these conditions in the general economy and in the semiconductor industry to continue to impact adversely our existing and prospective customers ability to purchase our products and services in the near future. In addition, because of these economic conditions, we have elected to focus on larger customers with greater resources. However, such large customers 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 derive our license revenues from software and intellectual property licenses and products. We derive service revenues from fixed fee technology development and design contracts and postcontract customer support. Our licenses typically have terms ranging from one year to three years. Our pricing depends upon a number of factors, including the type of intellectual property, contract terms, number and complexity of designs and number of design teams and their locations. Some of our license agreements include a royalty feature under which our customers pay us additional fees for additional chip designs that exceed the contracted number of designs.

Historically, a portion of our total revenues has been derived from customers outside the United States and Canada, primarily from Asia and Europe. International revenues as a percentage of our total revenues was approximately 21%, 27% and 19% for the years ended December 31, 2002, 2001 and 2000, respectively. We anticipate that international revenues will remain a portion of our total revenues in the future. To date, all of the revenues from international customers have been denominated in U.S. dollars.

We derive substantially all of our revenues from license and service revenues, including support and maintenance fees. As a percentage of our total revenues, these license and service revenues accounted for 99%, 100% and 100% for the years ended December 31, 2002, 2001 and 2000, respectively. We expect that license and service revenues will continue to account for a substantial portion of our total revenues for the foreseeable future.

Deferred revenues primarily consist of maintenance and support services under maintenance contracts and unearned revenue on one-year term licenses. For design services and technology development contracts, deferred revenues represent the excess of amounts invoiced or received over

the revenue recognized. Deferred revenues fluctuate at each period end in accordance with the mix of contracts.

Cost of license revenues consists of shipping, product packaging, software license and maintenance costs, materials and labor costs, and royalties paid to third party vendors. Cost of service revenues consists of

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compensation and related costs and third party consultant costs associated with providing postcontract customer support and consulting services.

Research and development expenses consist primarily of compensation and related costs for personnel. All research and development costs are expensed as incurred.

Sales and marketing expenses consist primarily of compensation and related costs for sales and marketing personnel, marketing programs, public relations, promotional materials, amortization of non-competition agreement, travel and related trade show expenses.

General and administrative expenses consist primarily of compensation and related costs for general management, information technology, finance and accounting personnel, insurance, allowance for doubtful accounts, professional services and related fees and expenses.

Results of Operations

The following table sets forth, for the periods indicated, certain financial data as a percentage of revenues:

	Years Ended December 31,		
	2002	2001	2000
Revenues:			
License	65%	70%	60%
Service	34	30	40
Royalties	1		
Total revenues	100	100	100
Cost of revenues:			
License	6	5	6
Service	22	12	21
Total cost of revenues	28	17	27
Gross profit	72	83	73
Operating expenses:			
Research and development	32	30	54
Sales and marketing	64	58	96
General and administrative	27	16	43
Amortization of deferred stock compensation	10	17	23
Total operating expenses	133	121	216

Loss from operations	(61)	(38)	(143)
Interest and other income	7	2	6
Loss before provision for income taxes	(54)	(36)	(137)
Provision for income taxes	1		
Net loss	(55)%	(36)%	(137)%

Comparison of years ended December 31, 2002 and 2001

Total revenues

Total revenues for the year ended December 31, 2002 were $15.6 million compared to $17.2 million for the year ended December 31, 2001, a decrease of $1.6 million or 9%. The decrease in total revenues was primarily attributable to a decrease in license revenues of $1.9 million, partly offset by an increase in service revenues of $155,000. The decrease in license revenues was primarily due to decreased demand from fabless semiconductor and systems companies primarily due to the current downturn in the semiconductor industry.

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Total cost of revenues

Total cost of revenues for the year ended December 31, 2002 increased to $4.4 million or 28% of revenues, from $2.9 million or 17% of revenues for the year ended December 31, 2001. The increase was primarily due to an increase in personnel related expenses of $770,000 caused by an increase in the time spent by our engineers on service activities, an increase in the amortization of the transitional services of $453,000 associated with the acquisition of the distributor business in Japan, and an increase in outside services of $69,000. Total cost of revenues as a percentage of total revenues increased primarily due to the adverse conditions in the semiconductor industry which resulted in a decrease in revenues while higher service costs resulted from establishing a wholly-owned subsidiary in Japan, and higher support costs for customers.

Research and development

Research and development expenses decreased to $5.0 million or 32% of revenues for the year ended December 31, 2002 from $5.1 million or 30% of revenues for the year ended December 31, 2001.

Sales and marketing

Sales and marketing expenses remained constant for the year ended December 31, 2002, as compared to the year ended December 31, 2001. Sales and marketing expenses were $9.9 million or 64% of revenues for the year ended December 31, 2002, compared to $9.9 million or 58% of revenues for the year ended December 31, 2001. Despite a decrease in total revenues in fiscal year 2002, the sales and marketing expenses remained constant at $9.9 million primarily due to a decrease in the overall commission rate and a decrease in total revenues resulting in lower commissions of $1.5 million, partly offset by higher payroll and related expenses of $959,000 associated with hiring of five additional employees, and an increase in amortization expenses of $578,000 resulting from the acquisition of the distributor business in Japan.

General and administrative

General and administrative expenses increased $1.4 million to $4.2 million or 27% of revenues for the year ended December 31, 2002 compared to $2.8 million or 16% of revenues for the year ended December 31, 2001. The increase was primarily due to an increase of $1.1 million in insurance expenses and professional fees associated with being a public company and $196,000 of professional fees in connection with the proposed acquisition of PurpleVision Technologies Private Limited, which was terminated in October 2002.

Interest income

Interest income increased $733,000 to $1.1 million for the year ended December 31, 2002 from $366,000 for the year ended December 31, 2001. The increase was due to increased interest income resulting from higher investment balances as a result of our initial public offering in November 2001.

Income taxes

Our net operating losses are generated domestically, and amounts attributed to our foreign operations have been insignificant for all periods presented. For the years ended December 31, 2002 and 2001, we recorded income tax provisions of $113,000 and $124,000 primarily related to state and foreign taxes. No benefit for income taxes has been recorded due to the uncertainty of the realization of deferred tax assets. From inception through December 31, 2002, we incurred net losses for federal and state tax purposes. As of December 31, 2002, we had federal and California net operating loss carryforwards of approximately $46.6 million and $21.7 million available to reduce future federal and California taxable income, respectively. These federal and California carryforwards begin to expire in 2006 and 2003, respectively, if not utilized. The extent to which these carryforwards can be used to offset future taxable income may be limited under Section 382 of the Internal Revenue Code and applicable state tax law.

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Comparison of years ended December 31, 2001 and 2000

Total revenues

Total revenues for the year ended December 31, 2001 were $17.2 million compared to $9.3 million for the year ended December 31, 2000, an increase of $7.9 million or 86%. License revenues accounted for $6.5 million of the increase and were primarily due to increased demand from fabless semiconductor companies, integrated device manufacturers, systems companies and our distributor in Japan. 74% and 66% of our total revenues were generated from existing customers during the years ended December 31, 2001 and 2000, respectively. Service revenues increased by $1.4 million due to increases in postcontract customer support services, which in turn increased as a result of the increase in license revenues.

Total cost of revenues

Total cost of revenues for the year ended December 31, 2001 increased to $2.9 million or 17% of revenues, from $2.5 million or 27% of revenues for the year ended December 31, 2000. The increase was primarily due to the amortization of $447,000 relating to capitalized technology license costs. The capitalized technology license costs relate to our amended license agreement with Nortel Networks. In the first quarter of 2001, we amended that agreement to provide that we would pay, in addition to royalties on future licenses, a total of $850,000 in seven equal quarterly payments through September 2002. We had capitalized the $850,000 and amortized the amount over the period commencing March 2001 through September 2002. Cost of license revenues as a percentage of total revenues decreased from 6% to 5% due to an increase in license revenues compared to an increase in license cost. Cost of service revenues as a percentage of total revenues decreased from 21% to 12% as a result of the change in mix from engineering services to higher margin postcontract customer support services.

Research and development

Research and development expenses increased to $5.1 million or 30% of revenues for the year ended December 31, 2001 from $5.0 million or 54% of revenues for the year ended December 31, 2000.

Sales and marketing

Sales and marketing expenses increased to $9.9 million or 58% of revenues for the year ended December 31, 2001 from $8.9 million or 96% of revenues for the year ended December 31, 2000. The increase in expenses was primarily due to higher sales and marketing personnel expenses of $832,000 associated with hiring 11 additional employees since January 2000, higher commission expenses of $462,000 and higher travel expenses of $364,000, partly offset by a decrease in trade show and related expenses of $206,000 and a reallocation of our sales support and marketing personnel in 2000 to consulting and postcontract customer support services in 2001 of $598,000.

General and administrative

General and administrative expenses decreased $1.2 million to $2.8 million or 16% of revenues for the year ended December 31, 2001 compared to $4.0 million or 43% of revenues for the year ended December 31, 2000. In 2000 our general and administrative expenses included public offering costs of $1.1 million which we wrote off because we decided to delay our initial public offering due to market conditions at that time. The decrease in expenses in 2001 was also due to a decrease in professional fees of $210,000, partly offset by higher payroll and related expenses of $221,000 associated with hiring two additional employees.

Interest income

Interest income decreased $217,000 to $366,000 for the year ended December 31, 2001 from $583,000 for the year ended December 31, 2000. The decrease was primarily due to decreased interest income from lower

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average short-term investment balances before the receipt of the net proceeds of $41.1 million from our initial public offering in November 2001 and decreases in interest rates.

Income taxes

Our net operating losses are generated domestically, and amounts attributed to our foreign operations have been insignificant for all periods presented. For the years ended December 31, 2001 and 2000, we recorded income tax provisions of $124,000 and $9,000. No benefit for income taxes has been recorded due to the uncertainty of the realization of deferred tax assets.

Liquidity and Capital Resources

We have funded our operations primarily from license and service revenues received from inception to December 31, 2002, the net proceeds of $41.1 million from our initial public offering of common stock in November 2001, and the proceeds of approximately $47.6 million from the sale of preferred stock and warrants, the exercise of stock options and common stock purchases from the employee stock purchase plan.

Net cash used in operating activities was $5.2 million for the year ended December 31, 2002, $2.9 million for the year ended December 31, 2001, and $6.9 million for the year ended December 31, 2000. Net cash used in operating activities for the year ended December 31, 2002 was primarily due to a net loss of $8.5 million, a decrease in deferred revenues of $2.6 million resulting from a decrease in customer orders, a decrease in accrued liabilities of $427,000, and an increase in prepaid expenses and other current assets of $308,000. This was partly offset by non-cash charges relating to depreciation and amortization and amortization of stock-based compensation of $2.4 million and $1.6 million, respectively, a decrease in accounts receivable of $2.0 million and an increase in accounts payable of $728,000. Net cash used in operating activities for the year ended December 31, 2001 was primarily due to a net loss of $6.1 million, an increase in prepaid and other current assets of $576,000, a decrease in royalties payable of $1.2 million and a decrease in accrued liabilities of $267,000, partly offset by non-cash charges relating to depreciation and amortization and amortization of deferred stock-based compensation of $1.1 million and $2.9 million, respectively, a decrease in accounts receivable of $198,000, a decrease in unbilled receivable of $233,000, an increase in accounts payable of $264,000 and an increase in deferred revenues of $749,000 resulting from an increase in postcontract customer support contracts. Net cash used in operating activities for the year ended December 31, 2000 was primarily due to a net loss of $12.7 million and an increase in accounts receivable of $510,000, partly offset by non-cash charges, an increase in royalties payable of $317,000, an increase in accrued liabilities of $572,000 and an increase in deferred revenues of $2.7 million. The increase in deferred revenues in 2000 was mainly due to increases in the number of one-year term licenses and postcontract customer support contracts for which postcontract customer support revenues are recognized over the term of the related contract, as well as payments received pursuant to the terms of contracts that included the delivery of future specified software upgrades. As a result, payments received were included in deferred revenue and no revenue was recognized pursuant to these contracts.

Net cash used in investing activities was $16.1 million for the year ended December 31, 2002, $13.6 million for the year ended December 31, 2001, and $1.1 million for the year ended December 31, 2000. Net cash used in investing activities for the year ended December 31, 2002 was primarily due to the purchase of marketable securities of $22.4 million, the purchase of short-term investments of $9.0 million, the purchase of property and equipment of $809,000, and the payments related to the acquisition of the distributor business in Japan of $1.9 million, partly offset by the proceeds from the sales of marketable securities of $16.0 million and from the sales of short-term investments of $2.0 million. Net cash used in investing activities for the year ended December 31, 2001 was primarily due to the purchase of long-term, interest bearing marketable securities of $12.0 million, the payments of $850,000 relating to the amendment of our technology license agreement with Nortel Networks, the purchase and implementation of customer support software for $320,000 and purchases of computer hardware and other equipment for $465,000. Net cash used in investing activities for the year ended December 31, 2000 was primarily due to the purchase and implementation of enterprise software, computer hardware and other equipment.

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Net cash provided by financing activities was $2.9 million for the year ended December 31, 2002, $41.3 million for the year ended December 31, 2001, and $14.5 million for the year ended December 31, 2000. Net cash provided by financing activities for the year ended December 31, 2002 was primarily due to the net proceeds of $372,000 received from the employee stock purchase plan purchases and issuance of common stock pursuant to exercise of employee stock options, and proceeds of $2.5 million borrowed under our line of credit. Net cash provided by financing activities for the year ended December 31, 2001 was primarily due to sale of common stock in our initial public offering. Net cash provided by financing activities for the year ended December 31, 2000 was primarily related to the sale of our Series I convertible preferred stock.

On December 16, 2002, we renewed and amended our Loan Agreement with a bank under which we may borrow, on a revolving basis, up to $5.0 million at an interest rate equal to prime rate, which was equal to an annual rate of 4.75% at December 31, 2002. The agreement is unsecured and is not collateralized by our assets. Under the agreement, we must comply with certain operating and reporting covenants and are not permitted to pay dividends, or make material investments or dispositions without the prior written consent of the bank. If we fail to comply with its covenants under the agreement, the bank can declare any outstanding amounts immediately due and payable and cease advancing money or extending credit to or for us. The agreement expires in January 31, 2004. At December 31, 2002, we had a $2.5 million balance outstanding under this agreement and had accrued an interest expense of $5,000, and we were not in compliance with certain covenants with the bank relating to the quarterly net losses. On February 7, 2003, we received a waiver from the bank relating to the quarterly net loss requirement and are in compliance with all the covenants under the agreement. On February 11, 2003, we amended the Loan Agreement with the bank as to certain operating covenants relating to the quarterly net loss requirement.

At December 31, 2002, we had cash and cash equivalents, short-term investments and marketable securities of $41.6 million, working capital of $17.1 million, and $2.5 million available under our $5.0 million line of credit.

In June 2002, we entered into a Share Purchase Agreement to acquire all of the outstanding shares of PurpleVision Technologies Private Limited for an aggregate purchase price of $1.5 million in cash. In October 2002, the Share Purchase Agreement was terminated in accordance with its terms. Under the agreement, if the purchase transaction was not completed by October 7, 2002, the agreement was terminated. We recognized a charge of $196,000 for professional fee expenses associated with the negotiation and termination of the agreement.

In July 2002, we entered into a Business Transfer Agreement with our then distributor in Japan. Pursuant to this agreement, we acquired certain fixed assets, customer lists, transitional services and a covenant not to compete (non-competition agreement) for a period of one year. We accounted for the acquisition as a purchase. The aggregate purchase price of the transaction was $1.9 million. The purchase price included professional fees and other direct costs of the acquisition totaling $58,000. Based on an independent third-party valuation analysis, we allocated $620,000 to transitional services from July 18, 2002 to December 31, 2002 and $1.3 million to the non-competition agreement over the period of benefit which ends on July 17, 2003.

We rent office facilities under non-cancelable operating leases which expire through July 2006. We are responsible for certain maintenance costs, taxes and insurance under the respective leases. Total future minimum payments under such operating leases at December 31, 2002 were $2.3 million.

We expect to finance these future commitments using existing cash resources. We currently anticipate that our available cash resources will be sufficient to meet our anticipated operating, capital requirements and business acquisitions for at least the next 12 months.

We intend to continue to invest in the development of new products and enhancements to our existing products. Our future liquidity and capital requirements will depend upon numerous factors, including the costs

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and timing of expansion of product development efforts and the success of these development efforts, the costs and timing of expansion of sales and marketing activities, the extent to which our existing and new products gain market acceptance, competing technological and market developments, the costs involved in maintaining and enforcing patent claims and other intellectual property rights, the level and timing of license and service revenues, available borrowings under line of credit arrangements and other factors. In addition, we may utilize cash resources to fund acquisitions of, or investments in, complementary businesses, technologies or product lines. From time to time, we may be required to raise additional funds through public or private financing, strategic relationships or other arrangements. There can be no assurance that such funding, if needed, will be available on terms attractive to us, or at all. Furthermore, any additional equity financing may be dilutive to stockholders, and debt financing, if available, may involve restrictive covenants. Strategic arrangements, if necessary to raise additional funds, may require us to relinquish our rights to certain of our technologies or products. Our failure to raise capital when needed could have a material adverse effect on our business, operating results and financial condition.

Recent Accounting Pronouncements

In June 2002, the FASB issued SFAS 146, Accounting for Costs Associated with Exit or Disposal Activities. SFAS 146 addresses financial accounting and reporting for costs associated with exit or disposal activities. SFAS 146 requires that a liability for a cost associated with an exit or disposal activity is recognized when the liability is incurred. In summary, SFAS 146 requires that the liability shall be recognized and measured initially at its fair value in the period in which the liability is incurred, except for one-time termination benefits that meet certain requirements. Since SFAS 146 is effective prospectively for exit or disposal activities initiated after December 31, 2002, the adoption of SFAS 146 will have no effect on our current financial position or results of operations.

In November 2002, the FASB issued FASB Interpretation No. 45 (FIN 45), Guarantor s Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others. FIN 45 requires that a liability be recorded in the guarantor s balance sheet upon issuance of a guarantee. In addition, FIN 45 requires disclosures about the guarantees that an entity has issued, including a reconciliation of changes in the entity s product warranty liabilities. The initial recognition and initial measurement provisions of FIN 45 are applicable on a prospective basis to guarantees issued or modified after December 31, 2002, irrespective of the guarantor s fiscal year-end. The disclosure requirements of FIN 45 are effective for financial statements of interim or annual periods ending after December 15, 2002. We have adopted this statement. The adoption of FIN 45 did not have a material effect on our financial position or results of operations.

In December 2002, the FASB issued Statement of Financial Accounting Standards (SFAS) No. 148, Accounting for Stock-Based Compensation, Transition and Disclosure. SFAS No. 148 provides alternative methods of transition for a voluntary change to the fair value based method of accounting for stock-based employee compensation. SFAS No. 148 also requires that disclosures of the pro forma effect of using the fair value method of accounting for stock-based employee compensation be displayed more prominently and in a tabular format. Additionally, SFAS No. 148 requires disclosure of the pro forma effect in interim financial statements. The transition and annual disclosure requirements of SFAS No. 148 are effective for fiscal years ending after December 15, 2002. The interim disclosure requirements are effective for interim periods beginning after December 15, 2002. We do not expect that the adoption of SFAS 148 will have a material effect on our financial position or results of operations.

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FACTORS THAT MAY AFFECT RESULTS

If the semiconductor industry does not adopt embedded test technology, 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 assure you 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:

- potential customers may determine that existing solutions adequately address their testing needs, or the industry may develop alternative technologies to address their testing needs;
- our existing and potential customers may continue to react to declining 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;
- 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; 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.

If the industries into which we sell our products experience recession or other cyclical effects impacting our customers research and development budgets, our operating results could be negatively impacted.

Our sales are dependent upon capital spending trends and new design projects, and a substantial portion of our costs is fixed in the near term. The demand from our customers, including integrated device manufacturers, fabless semiconductor companies and systems providers, is uncertain and difficult to predict. Slower growth in the semiconductor and systems industries, 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. For example, we continue to see significant reductions in the number of design starts and have experienced delayed orders by customers beginning in the second quarter and continuing through the fourth quarter of fiscal 2002.

The primary customers for semiconductors that incorporate our embedded test technology are companies in the communications, networking, server and high-end consumer products industries. Any significant downturn in these particular markets or in general economic conditions which result in the cutback of research and development budgets or capital expenditures would likely result in a reduction in demand for our products and services and could harm our business. For example, the U.S. economy, including the semiconductor industry, is currently experiencing a

slowdown, which may continue to negatively impact our business and operating results as the number of design starts by current and potential customers decline. Some analysts have predicted that a further decline in the U.S. economy may result from recent volatility in the financial markets. If the economy continues to decline as a result of the recent economic, political and 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.

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In addition, the markets for semiconductor products are cyclical. In recent years, some Asian countries have experienced significant economic difficulties, including devaluation and instability, business failures and a depressed business environment. 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 $58.6 million as of December 31, 2002. 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 $8.5 million for the year ended December 31, 2002, $6.3 million in fiscal 2001 and $12.9 million in fiscal 2000. At December 31, 2002, we had an accumulated deficit of approximately $58.6 million. We expect our future revenues to be negatively impacted by current market and customer conditions, and we expect to continue to commit substantial investment in our research and development projects and to continue to hire additional personnel in our service operations to support our business development activities. Because we expect to continue to invest in business development, our expenditures could outpace growth in 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, 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. If we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or an annual basis.

The sales and implementation cycles for our products are typically long and unpredictable, taking from six months to two years for sales and an additional six to twelve 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.

Historically, our sales cycle has ranged from six months to two years and our customers implementation cycle has been approximately an additional six to twelve months. Recently, we have been experiencing longer sales and implementation cycles for our products primarily due to the current adverse economic conditions and downturn in the semiconductor industry.

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.

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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.

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 significantly 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;
- timing of sales commission expenses and the recognition of license revenues from related customer agreements;
- 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;
- the mix of our license and services revenues;
- changes in our and our customers development schedules and levels of expenditures on research and development;
- customers placing orders at the end of the quarter;
- industry patterns and changes or cyclical and seasonal fluctuations in the markets we target; 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 customer s 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 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 revenue and/or earnings estimates even though total orders fall short of our plan, due to revenues produced by deferred revenues. Orders for software support and professional services yield revenues over multiple quarters, often 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.

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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., Mentor Graphics Corporation and Synopsys, Inc., all of which offer basic built-in self-test capability;
- smaller test tool providers such as SynTest Technologies, Inc.;
- 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 Teradyne, Inc., Credence Systems Corporation, Advantest Corporation, Agilent Technologies, Inc., LTX Corporation and NP Test Inc. 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. Some 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. Increased competition and the current downturn 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. 11 customers accounted for approximately 54% of total revenues for the year ended December 31, 2002, of which two customers accounted for 12% and 10% of total revenues, respectively. 15 customers accounted for approximately 50% of revenues for the year ended December 31, 2001, of which no single customer accounted for more than 10% of total revenues. We anticipate that we will continue to rely on a limited number of customers for a substantial portion of our revenues in the future. As a result, we must obtain orders from new significant 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.

Our products incorporate technology licensed from third parties, including Nortel Networks. 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. In particular, we license technology from Nortel Networks under two patents for testing embedded memories and digital systems, and we use the Nortel technology in our embedded test technology. Our license agreement with Nortel may be terminated if we materially violate the terms of the agreement, if a competitor of Nortel acquires a significant

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percentage of our common stock without first obtaining Nortel s consent or if we bring patent infringement proceedings against Nortel under any patent embodied in, or acquired as a result of access to, the technology we license from Nortel. 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.

We have recently introduced a hardware product called the LogicVision Validator. If we are unable to successfully manage the manufacturing process and service support for this product, our reputation and our operating results could be harmed.

In June 2002, we introduced our first hardware product, the LogicVision Validator, and shipped two units in the fourth quarter of fiscal year 2002. We rely on an independent subcontractor to manufacture this product for us. Because our other products are delivered in the form of software, we do not have experience in managing the manufacturing and service support for hardware products. If we are unable to accurately predict market demand for the LogicVision Validator, manage lead times in the procurement process and develop and maintain appropriate inventory controls, we may experience shortages or excess inventory. Shortages could result in lost sales opportunities and customers, and excess inventory could become obsolete, resulting in inventory write-offs which would negatively affect our financial results. In addition, we may need to customize our product to meet specifications of our customers outside of the United States.

We obtain several of the components used in this product from single or limited sources. If component manufacturers do not allocate a sufficient supply of components to meet our needs or if current suppliers do not provide components of adequate quality or compatibility, we may have to obtain these components from distributors or on the spot market at a higher cost. We do not have guaranteed supply arrangements with our suppliers, and suppliers may not be able to meet our current or future component requirements. If we are forced to use alternative suppliers of components, we may have to alter our product design to accommodate these components. Alteration of our product design to use alternative

components could cause significant delays and

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reduce our production. In addition, we do not have specific volume purchase agreements with our subcontractor, and the subcontractor could cease supplying the product at any time with limited or no penalty. If we need to replace the subcontractor, we could incur significant manufacturing set-up costs and delays, which in turn could affect inventory levels.

Because this is our first hardware product, our customer support service personnel may experience difficulties in responding to customer needs, and we may be required to obtain third-party assistance, either directly or in the form of further training for our existing support personnel. Delays in customer service could result in rejection of our product and loss of customer confidence. Third-party assistance could be costly and divert attention of our personnel from primary support of our other products. Loss of sales, damaged reputation or increased costs could harm our revenues and profitability.

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, may cause adverse unexpected revenue 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 have occurred with frequency, may occur in the future and could impact our revenues. 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.

Accounting policies affecting many other aspects of our business, including rules relating to revenue recognition, purchase accounting for business combinations and employee stock option grants 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.

Our embedded test 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 embedded test 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

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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.

We have experienced, and we expect to continue to experience, difficulty in hiring and retaining highly skilled engineers with appropriate qualifications to support our business. In particular, our strategy for encouraging the adoption of our technology requires that we employ highly skilled applications engineers to work with our customers. 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.

Our chief executive officer, chief scientist and vice president of engineering are critical to our business, and they may not remain with us in the future.

Our future success depends to a significant extent on the continued services of Vinod K. Agarwal, our President and Chief Executive Officer, Benoit Nadeau-Dostie, our Chief Scientist, and Michael C. Howells, our Vice President of Engineering. We do not have employment agreements with these executives and key employees, and we do not maintain key person life insurance policies except on Vinod K. Agarwal. The loss of the services of any of these key executives and employees could slow our product development processes. Searching for replacements could divert senior management s attention and increase our operating expenses. In addition, our industry partners and customers could become concerned about our future operations, which could injure our reputation.

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. law. 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 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.

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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 the sale of our proprietary technologies and products to decrease.

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 sell our products and services through distributors in India and Israel and sales representatives in Japan, Singapore and Taiwan. We anticipate that sales in these markets will account for a portion of our total revenues in future periods. Our third-party representatives are not obligated to continue selling our products, and they may terminate their arrangements with us at any time with limited prior notice. Establishing alternative distribution channels in any of these markets could consume substantial time and resources, decrease our revenues and increase our expenses.

We face business, political and economic risks because a portion of our sales are to customers outside of the United States.

International revenues from sales outside the United States and Canada accounted for 21% of our total revenues for the year ended December 31, 2002 and 27% for year ended December 31, 2001. Our success depends upon continued expansion of our international operations, and we expect that a portion of our total future revenues will be generated from international sales. Our international business involves a number of risks, including:

- our ability to adapt our products to foreign design methods and practices;
- 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;

the uncertainty of Japanese sales due to the typically lengthy Japanese sales cycle;

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 or military conditions associated with current worldwide conflicts and events.

Our international sales are currently denominated in U.S. dollars, creating a risk that fluctuation in currency exchange rates will make our prices uncompetitive. However, as we increase our direct sales activities in Japan, it may be necessary to have our sales to be denominated in the Japanese yen. Accordingly, we are subject to exposure from movements in foreign currency exchange rates. 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 results of operations and business and financial condition.

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Our historical growth has placed a significant strain on our management systems and resources, and if we fail to manage this growth and are unable to effectively control our costs and implement our business strategies, our business will be harmed.

Our ability to license our products and manage our business successfully in an evolving market requires an effective planning and management process. Our historical growth, international expansion in Japan and India and acquisition of certain assets and customer contracts from our Japanese distributor have placed, and are expected to continue to place, a significant strain on our resources and increased demands on our management information and reporting systems, financial and management controls and personnel. To manage our growth, we must implement and improve additional and existing administrative, financial and operations systems, procedures and controls. We may not be able to develop the internal capabilities or collaborative relationships required to manage future growth and expansion or to support future operations. If we are unable to manage growth effectively, our revenues could decline.

We may be unable to consummate future potential acquisitions or investments or successfully integrate acquired businesses or investments 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.

Our establishment of two wholly owned Japanese and Indian subsidiaries require significant management attention, which could distract our management from day to day operations and could disrupt our business.

In December 2002, we completed the transfer of all designated customer contracts from our then Japanese distributor to our wholly owned Japanese subsidiary. We are in the process of transitioning customer relationships to our wholly owned Japanese subsidiary. If we fail to successfully transition customer relationships to our wholly owned Japanese subsidiary, the revenues and operating results of our combined company could decline. To realize the benefits of this transaction, we must successfully integrate our wholly owned Japanese subsidiary into our existing operations despite differences in culture, language and legal environments. In addition, because we do not have the same experience and relationships as our former distributor in Japan, we may not succeed in our efforts to develop a direct sales presence in Japan, and the cost of these efforts may be significant. If our customers are uncertain about our ability to operate on a combined basis or about developing a more direct relationship with us, they could delay or cancel orders for our products.

We established a wholly owned subsidiary in Bangalore, India to provide engineering and customer support services to our customers worldwide. We do not have any prior operating experience in India, and our expansion in India presents a number of risks including increased difficulty in coordinating our engineering and customer support efforts, increased costs associated with establishing our remote office, obtaining required equipment and tools and training new personnel, increased communications and travel costs, and potential delays in our engineering and customer support efforts.

We intend to continue to expand the range of our proprietary technologies and products, and we may acquire or make investments in additional complementary businesses, technologies or products, if appropriate opportunities arise. 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. If we do acquire additional companies or make other types of acquisitions, we may have difficulty integrating the acquired products, personnel or technologies. We may not be able to retain key management, technical or sales personnel after an acquisition. These difficulties could disrupt our ongoing business, distract our management and employees and increase our expenses.

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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.

If investors price our common stock below $1.00 per share, our stock may fail to meet the requirements for continued listing on The Nasdaq National Market, in which case the price and liquidity of our common stock may decline.

The Nasdaq Stock Market has quantitative maintenance criteria for the continued listing of common stock on The Nasdaq National Market, including maintaining a minimum closing bid of $1.00 per share. As of December 31, 2002, we were in compliance with all Nasdaq National Market listing requirements. However, our stock price has declined significantly over the past year and experienced volatility. If the closing bid price of our common stock price falls and remains below $1.00 per share for 30 consecutive days, our common stock may not remain listed on The Nasdaq National Market. If we fail to maintain continued listing on The Nasdaq National Market and must move to a market with less liquidity, our financial condition could be harmed and our stock price would likely decline. If we are delisted, it could have a material adverse effect on the market price of, and the liquidity of the trading market for, 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 costs and timing of expansion of product development efforts and the success of these development efforts;

the costs and timing of expansion of sales and marketing activities;

the extent to which our existing and new products gain market acceptance;

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- the need to adapt to changing technologies and technical requirements;
- competing technological and marketing developments;
- the costs involved in maintaining and enforcing patent claims and other intellectual property rights;
- the level and timing of license and service revenues;
- 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 7A. Quantitative and Qualitative Disclosures About Market Risk

Foreign Currency Fluctuations

In the normal course of business, we are exposed to market risk from the effect of foreign exchange rate fluctuations on the U.S. dollar value from our foreign operations and financial condition. Substantially all of our revenues have been denominated in U.S. dollars; however, as we increase our direct sales activities in Japan, it may be necessary to have our sales in Japan be denominated in Japanese yen. In addition, the operating expenses incurred by our foreign subsidiaries are denominated in local currencies. Accordingly, we are subject to exposure from movements in foreign currency exchange rates. To date, the effect of changes in foreign currency exchange rates on our financial position and operating results have not been material. We currently do not use financial instruments to hedge foreign currency risks. We intend to assess the use of financial instruments to hedge currency exposures on an ongoing basis.

Interest Rate Risk

Our exposure to market risk for changes in interest rates relate primarily to our investment portfolio. We have not used derivative financial instruments in our investment portfolio. We invest our excess cash in high-quality corporate issuers and in debt instruments of the U.S. Government and, by policy, limit the amount of credit exposure to any one issuer. As stated in our policy, we are averse to principal loss and

seek to preserve our invested funds by limiting default risk, market risk and reinvestment risk. We mitigate default risk by investing in high credit quality securities and by positioning our portfolio to respond appropriately to a significant reduction in a credit rating of any investment issuer or guarantor. The portfolio includes only marketable securities with active secondary or resale markets to ensure portfolio liquidity.

Investments in both fixed and floating rate interest-earning instruments carry a degree of interest rate risk. Fixed rate securities may have their fair market value adversely impacted due to rising interest rates, while floating rate securities may produce less income than expected if interest rates fall. Due in part to these factors, our future investment income may fall short of expectations due to changes in interest rates or we may suffer losses in principal if forced to sell securities which have declined in market value due to changes in interest rates.

Short-term investments and long-term investments are classified as held-to-maturity and the cost of securities sold is based on the specific identification method. At December 31, 2002, we had short-term U.S. government securities and long-term U.S. government securities of $7.0 million and $18.4 million, respectively.

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Item 8. Financial Statements and Supplementary Data

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Financial statement schedules not listed above are either omitted because they are not applicable or the required information is shown in the Consolidated Financial Statements or in the Notes thereto.

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Report of Independent Accountants

To the Board of Directors and Stockholders
of LogicVision, Inc.:

In our opinion, the consolidated financial statements listed in the accompanying index present fairly, in all material respects, the financial position of LogicVision, Inc. and its subsidiaries at December 31, 2002 and 2001, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2002 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule listed in the accompanying index presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. These financial statements and the financial statement schedule are the responsibility of the Company s management; our responsibility is to express an opinion on these financial statements and financial statement schedule based on our audits. We conducted our audits of these statements in accordance with auditing standards generally accepted in the United States of America, which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP

San Jose, California

January 17, 2003

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LOGICVISION, INC.

CONSOLIDATED BALANCE SHEETS

(in thousands, except share data)

	December 31,	
	2002	2001
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 16,179	$ 34,496
Short-term investments	6,992	
Accounts receivable, net of allowance for doubtful accounts of $12 and $21	1,170	3,184
Prepaid expenses and other current assets	1,174	866
Total current assets	25,515	38,546
Property and equipment, net	1,486	1,453
Marketable securities	18,390	11,984
Notes receivable, related parties	93	100
Other long-term assets, net	1,041	649
Total assets	$ 46,525	$ 52,732
LIABILITIES AND STOCKHOLDERS EQUITY		
Current Liabilities:		
Short-term debt	$ 2,500	$
Accounts payable	1,468	740
Accrued liabilities	1,339	1,766
Deferred revenue, current portion	3,153	4,667
Total current liabilities	8,460	7,173
Deferred revenue	270	1,319
Total liabilities	8,730	8,492
Commitments and contingencies (See Note 6)		
Stockholders Equity:		
Preferred stock, $0.0001 par value:		
Authorized: 5,000,000 shares;		
Issued and outstanding: no shares issued and outstanding		
Common stock, $0.0001 par value:		
Authorized: 125,000,000 shares;		
Issued and outstanding: 15,245,503 shares at December 31, 2002 and 14,872,411 shares at December 31, 2001	2	1
Additional paid-in capital	97,341	97,179
Deferred stock-based compensation	(1,042)	(2,863)
Accumulated other comprehensive income	92	17

Accumulated deficit	(58,598)	(50,094)
Total stockholders equity	37,795	44,240
Total liabilities and stockholders equity	$ 46,525	$ 52,732

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

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LOGICVISION, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

(in thousands, except per share data)

	Years Ended December 31,		
	2002	2001	2000
Revenues:			
License	$ 10,177	$ 12,079	$ 5,597
Service	5,308	5,153	3,686
Royalties	70		
Total revenues	15,555	17,232	9,283
Cost of revenues:			
License	962	803	583
Service	3,421	2,141	1,955
Total cost of revenues	4,383	2,944	2,538
Gross profit	11,172	14,288	6,745
Operating expenses:			
Research and development	5,007	5,093	4,987
Sales and marketing	9,914	9,947	8,930
General and administrative	4,153	2,768	4,012
Amortization of deferred stock compensation(1)	1,612	2,859	2,106
Total operating expenses	20,686	20,667	20,035
Loss from operations	(9,514)	(6,379)	(13,290)
Interest income	1,099	366	583
Other income (expense), net	24	(6)	
Loss before provision for income taxes	(8,391)	(6,019)	(12,707)
Provision for income taxes	113	124	9
Net loss	(8,504)	(6,143)	(12,716)
Accretion of redeemable convertible preferred stock		130	173
Net loss attributable to common stockholders	$ (8,504)	$ (6,273)	$ (12,889)
Net loss per common share, basic and diluted	$ (0.57)	$ (1.54)	$ (7.79)
Weighted average number of shares outstanding, basic and diluted	15,002	4,063	1,654

(1) Amortization of deferred stock-based compensation:

	Years Ended December 31,		
	2002	2001	2000
Total cost of revenues	$ 31	$ 115	$ 71
Research and development	401	801	630
Sales and marketing	843	1,453	888
General and administrative	337	490	517
	$ 1,612	$ 2,859	$ 2,106

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

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LOGICVISION, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS EQUITY

AND COMPREHENSIVE INCOME (LOSS)

For the Years Ended December 31, 2002, 2001 and 2000

(in thousands)

	Common stock		Additional paid-in capital	Deferred stock-based compensation	Accumulated deficit	Accumulated other comprehensive income (loss)	Total stockholders equity (deficit)
	Shares	Amount					
Balances, December 31, 1999	1,419	$	$ 2,347	$ (577)	$ (31,235)	$ (35)	$ (29,500)
Stock options exercised	474		324				324
Stock options cancelled			(49)	49			
Common stock issued for services	3		34				34
Deferred stock-based compensation			5,617	(5,617)			
Amortization of deferred stock-based compensation				2,106			2,106
Fair value of warrants issued as issuance cost			72				72
Accretion of redeemable preferred stock			(173)				(173)
Net loss					(12,716)		(12,716)
Foreign currency translation adjustment						31	31
Comprehensive loss							(12,685)
Balances, December 31, 2000	1,896		8,172	(4,039)	(43,951)	(4)	(39,822)
Stock options exercised	65		110				110
Stock options cancelled			(132)	132			
Common stock issued in connection with initial public offering	5,085	1	41,143				41,144
Conversion of preferred stock	7,666		46,201				46,201
Exercise of preferred stock warrants	161						
Deferred stock-based compensation			1,815	(1,815)			
Amortization of deferred stock-based compensation				2,859			2,859
Accretion of redeemable preferred stock			(130)				(130)
Net loss					(6,143)		(6,143)
Foreign currency translation adjustment						21	21
Comprehensive loss							(6,122)
Balances, December 31, 2001	14,873	1	97,179	(2,863)	(50,094)	17	44,240
Stock options exercised	192	1	363				364

Stock options cancelled			(248)	248			
Deferred stock-based compensation			39	(39)			
Stock issuance costs in connection with initial public offering			(44)				(44)
Exercise of preferred stock warrants	161						
Common stock issued under employee stock purchase plan	20		52				52
Amortization of deferred stock-based compensation				1,612			1,612
Net loss					(8,504)		(8,504)
Foreign currency translation adjustment						75	75
Comprehensive loss							(8,429)
Balances, December 31, 2002	15,246	$ 2	$ 97,341	$ (1,042)	$ (58,598)	$ 92	$ 37,795

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

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LOGICVISION, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)

	Years Ended December 31,		
	2002	2001	2000
Cash flows from operating activities:			
Net loss	$ (8,504)	$ (6,143)	$ (12,716)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	2,376	1,099	566
Amortization of deferred stock-based compensation	1,612	2,859	2,106
Provision for allowance for doubtful accounts	(9)	(83)	116
Issuance of common stock for services			34
Changes in operating assets and liabilities:			
Accounts receivable	2,023	198	(510)
Unbilled receivable		233	(234)
Prepaid expenses and other current assets	(308)	(576)	214
Notes receivable, related parties	7	(25)	40
Other long-term assets	(114)		(171)
Accounts payable	728	264	123
Deferred revenue	(2,563)	749	2,665
Accrued liabilities	(427)	(1,442)	889
Net cash used in operating activities	(5,179)	(2,867)	(6,878)
Cash flows from investing activities:			
Purchase of marketable securities	(22,395)	(11,984)	
Purchase of short-term investments	(8,993)		
Purchase of property and equipment	(809)	(785)	(1,144)
Purchase of technology license		(850)	
Proceeds from sales of marketable securities	15,989		
Proceeds from sales of short-term investments	2,001		
Cash paid for acquisitions	(1,878)		
Net cash used in investing activities	(16,085)	(13,619)	(1,144)
Cash flows from financing activities:			
Proceeds from initial public offerings, net		41,143	
Proceeds from issuance of preferred stock, net			14,205
Proceeds from issuance of common stock, net	372	110	324
Proceeds from short-term debt	2,500		
Net cash provided by financing activities	2,872	41,253	14,529
Effect of exchange rate on cash	75	21	31

Net increase (decrease) in cash and cash equivalents	(18,317)	24,788	6,538
Cash and cash equivalents, beginning of year	34,496	9,708	3,170
Cash and cash equivalents, end of year	$ 16,179	$ 34,496	$ 9,708

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

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LOGICVISION, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. FORMATION AND BUSINESS OF THE COMPANY

Nature of Business

LogicVision, Inc. (the Company) was incorporated on July 23, 1992 and on September 15, 2000, the Company was reincorporated in the State of Delaware. The Company provides proprietary technologies for embedded test that enable the more efficient design and manufacture of complex semiconductors. The embedded test solution allows integrated circuit designers to embed into a semiconductor design test functionality that can be used during semiconductor production and throughout the useful life of the chip. The technology also allows integrated circuits to be tested after they have been assembled onto boards and systems.

Stock Split

On September 28, 2000, the Company s Board of Directors approved a one-for-two stock split of the Company s common stock. All share and per share amounts have been restated to reflect this share split.

Initial Public Offering

In November 2001, the Company completed its initial public offering of 5,085,000 shares of common stock (including 585,000 shares purchased by underwriters over-allotment option) at $9.00 per share. Net proceeds totaled $41.1 million, net of issuance costs. At the closing of the offering, all of the then issued and outstanding shares of preferred stock were converted into shares of common stock.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The accompanying consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation. The Company s fiscal year end is December 31.

Use of Estimates

The preparation of financial statements requires the Company to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, the Company evaluates its estimates, including those related to revenue recognition, allowance for doubtful accounts, investments, income taxes, warranty obligations, long-term service contracts, and contingencies and litigation. The Company bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Cash and Cash Equivalents, Short-term Investments and Marketable Securities

The Company considers all highly liquid investment instruments with original maturities of three months or less at the acquisition date to be cash equivalents and investment instruments with original maturities of more than three months at the acquisition date, but less than twelve months, to be short-term investments. All short-term investments and marketable securities are classified as held-to-maturity. Interest and realized gains and losses are included in interest income. Realized gains and losses are recognized based on the specific

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LOGICVISION, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

identification method. Cash and cash equivalents, short-term investments and marketable securities consist of the following (in thousands):

	December 31,	
	2002	2001
Cash and cash equivalents:		
Cash	$ 1,873	$ 1,116
Money market funds	11,006	24,380
U.S. government agency notes	3,300	9,000
Total cash and cash equivalents	$ 16,179	$ 34,496
Short-term investments:		
U.S. government agency notes	$ 6,992	$
Total short-term investments	$ 6,992	$
Marketable securities:		
U.S. government agency notes	$ 18,390	$ 11,984
Total marketable securities	$ 18,390	$ 11,984

Property and Equipment

Property and equipment are stated at cost and are depreciated on a straight-line basis over their estimated useful lives of three to five years. Leasehold improvements are amortized on a straight-line basis over the estimated useful life of the asset or the lease term, if shorter. Maintenance and repairs are charged to operations as incurred.

Long-Lived Assets

The Company reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. The Company uses an estimate of the future undiscounted net cash flow of the related asset or asset grouping over the remaining life in measuring whether these assets are recoverable. During the years ended December 31, 2002, 2001 and 2000, the Company did not record any impairment to its long-lived assets.