

NVE CORP /NEW/  
Form 10KSB  
May 27, 2004

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

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**Form 10-KSB**

(Mark One)

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

**For the fiscal year ended March 31, 2004**

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

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

**Commission file number 000-12196**

**NVE Corporation**

(Name of small business issuer in its charter)

**Minnesota**

(State or other jurisdiction of incorporation or organization)

**41-1424202**

(I.R.S. Employer Identification No.)

**11409 Valley View Road, Eden Prairie, Minnesota**

(Address of principal executive offices)

**55344**

(Zip code)

Issuer's telephone number **(952) 829-9217**

Securities registered under Section 12(b) of the Exchange Act: **None**

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Securities registered under Section 12(g) of the Exchange Act: **Common stock, \$0.01 par value ( Common Stock )**

Check whether the issuer: (1) filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the past 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES  NO

Check here if there is no disclosure of delinquent filers in response to Item 405 of Regulation S-B is not contained in this form, and no disclosure will 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-KSB or any amendment to this Form 10-KSB.

State issuer's revenues for the most recent fiscal year: **\$12,010,851**

The aggregate market value of the voting stock (Common Stock) held by non-affiliates of the Registrant, as of May 14, 2004, was approximately \$108 million based on the last sale price reported for such date on The NASDAQ SmallCap Market.

The number of shares of the Registrant's Common Stock (par value \$0.01) outstanding as of May 14, 2004 was 4,494,245.

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**DOCUMENTS INCORPORATED BY REFERENCE**

Parts of our Proxy Statement for our 2004 Annual Meeting of Stockholders are incorporated by reference into Items 10, 11, 12 and 13 hereof.

Transitional Small Business Disclosure Format (Check one): Yes ; No

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NVE CORPORATION

FORM 10-KSB

FOR THE FISCAL YEAR ENDED MARCH 31, 2004

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**GLOSSARY OF KEY TERMS**

<b>Coupler</b>	A device which transmits data between electronic systems. NVE makes spintronic couplers that transmit information much faster than the fastest optical couplers. Couplers are also known as isolators because they electrically isolate the coupled systems.
<b>DRAM (Dynamic Random Access Memory)</b>	The largest-capacity and most common type of conventional memory. MRAM has the potential to match DRAM bit density but would be faster and nonvolatile.
<b>Electron Spin</b>	Electrons have two stable spins (up and down). Electron spin causes magnetism on the atomic level; spintronics encodes data in electron spin.
<b>Embedded Memory</b>	Memory combined with other electronics on the same integrated circuit, such as a cellphone on a chip. It is virtually impossible to embed the various types of conventional memory required for a total system together on one IC; however, MRAM replaces all the different memory types (DRAM, SRAM, Flash), and can be embedded.
<b>Free Layer</b>	A layer in SDT or GMR structures where the spin polarization of electrons can be switched, usually by magnetic energy. This is the layer where data is sensed or stored.
<b>Flash Memory</b>	The leading conventional nonvolatile memory. Used in cellphones for permanent storage. Versions are used in memory cards and sticks, but these are much too slow for program execution. MRAM has the potential to meet and exceed Flash bit density but with unlimited life and much higher speed.
<b>Giant Magnetoresistor (GMR)</b>	A spintronic device that produces a large change in resistance of a conducting layer. Giant refers to its very large electrical signal. GMR is at the heart of NVE's sensors and couplers, and can also be used for a basic type of MRAM.
<b>IsoLoop®</b>	NVE's spintronic coupler brand name. Refers to a microscopic coil combined with GMR elements. The coil creates a small magnetic field that is picked up by the GMR elements transmitting data almost instantly.
<b>MRAM (Magnetic Random Access Memory)</b>	A revolutionary memory fabricated using nanotechnology which uses electron spin to encode data. MRAM has been called the holy grail of memory because it has the potential to combine the speed of SRAM, the density of DRAM, and the nonvolatility of flash.
<b>Magneto-Thermal MRAM</b>	An MRAM design that uses a combination of magnetic fields and ultra-fast heating from electrical current pulses to increase density and reduce the energy required to write data. NVE has patents and research programs in this area, which has the potential to increase MRAM bit densities.
<b>Nonvolatile</b>	A memory that retains its data even when the power is removed. MRAM is inherently nonvolatile.
<b>Optical Coupler (also Opto-Coupler)</b>	A conventional coupler which uses the combination of a light-emitting diode and photo detector to transmit information. NVE couplers are faster and denser than optical couplers, and unlike optical couplers which wear out, spintronic couplers last indefinitely.
<b>SRAM (Static Random Access Memory)</b>	A conventional memory that is faster than DRAM but lower density. Used for high-speed operations such as digital signal processing in cellphones and caches in computers. MRAM has the potential to match the speed of SRAM but with nonvolatility and much higher bit density.
<b>Sensor</b>	A device which acquires information such as position or speed. NVE makes ultra-precise spintronic sensors which report data such as the position of a robot arm.
<b>Spin-Dependent Tunnel (SDT) Junction</b>	A spintronic nanotechnology device that produces a large change in resistance through a normally insulating layer, depending on the predominant spin in a free layer. This allows electron spin to be sensed as electrical resistance for interface to conventional electronics. SDT devices use a layer as thin as a few

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atoms. SDT devices are at the heart of MRAM and low-field sensors. Also known as Magnetic Tunnel Junctions (MTJs) or Tunneling Magnetic Junctions (TMJs).

**Spin Valve** A spintronic switch with two stable resistance states. Spin valves are used in many of NVE's products.

**Spintronics** A nanotechnology which utilizes electron spin rather than electron charge to acquire, store and transmit information.

**Tunneling Magnetoresistance (TMR)** The change in resistance between two stable states of a spin-dependent tunnel junction at room temperature. NVE scientists recently demonstrated a record Spin Dependent Tunnel junction, which could make MRAM faster and more cost effective

**Wafer** Thin (less than 1 millimeter thick), circular material, most often silicon, used to manufacture semiconductors and other devices. Often contains thousands of devices.

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## PART I

### FORWARD-LOOKING STATEMENTS

Some of the statements made in this Report and the documents incorporated by reference in this Report under Item 1 Description of Business and Item 6 Management's Discussion and Analysis or Plan of Operation constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are subject to the safe harbor provisions of the reform act. Forward-looking statements may be identified by the use of the terminology such as may, will, expect, anticipate, intend, believe, estimate, should, or continue or the negatives of these terms or other variations on these words or comparable terminology. To the extent that this Report contains forward-looking statements regarding the financial condition, operating results, business prospects or any other aspect of NVE, you should be aware that our actual financial condition, operating results and business performance may differ materially from that projected or estimated by us in the forward-looking statements. We have attempted to identify, in context, some of the factors that we currently believe may cause actual future experience and results to differ from their current expectations. These differences may be caused by a variety of factors, including but not limited to adverse economic conditions, intense competition, including entry of new competitors, our ability to obtain sufficient financing to support our operations, progress in research and development activities by us and others, variations in costs that are beyond our control, adverse federal, state and local government regulations, unexpected costs, lower sales and net income, or higher net losses than forecasted, price increases for equipment, our dependence on significant suppliers, including Taiwan Semiconductor Manufacturing Corporation for foundry semiconductor wafers, our ability to meet stringent customer technical requirements, our ability to consummate additional license agreements, our ability to continue eligibility for SBIR awards, our inability to raise prices, failure to obtain new customers, the possible fluctuation and volatility of our operating results and financial condition, inability to carry out marketing and sales plans, loss of key executives, and other specific risks that may be alluded to in this Report.

### ITEM 1. DESCRIPTION OF BUSINESS.

#### In General

NVE Corporation develops and sells devices using spintronics, a nanotechnology we helped pioneer, which utilizes electron spin rather than electron charge to acquire, store and transmit information. We are a licensor of spintronic magnetic random access memory technology, commonly referred to as MRAM, which we believe has the potential to revolutionize electronic memory. We also manufacture high-performance spintronic products including sensors and couplers which are used to acquire and transmit data in automated factories.

#### NVE History and Background

We were founded in 1989 primarily as a government contract research company. We have licensed our MRAM intellectual property to others, including Cypress Semiconductor Corporation, Honeywell International, and Motorola, Inc. We also manufacture spintronic sensor and couplers which are sold through a worldwide network of manufacturers' representatives and distributors. We also have an agreement with Agilent Technologies, Inc. to distribute our couplers under their brand. Our commercial product revenues have been growing rapidly in the past two fiscal years.

In November 2000, our shareholders approved our merger with and into Premis Corporation, a publicly-traded and reporting corporation, with Premis surviving under the new name NVE Corporation. We executed a one-for-five reverse split of our common stock to shareholders of record at the close of business on November 21, 2002, and on January 22, 2003 our common stock began trading on the NASDAQ SmallCap Market.

## **Our Enabling Technology**

Our designs use one of two nano-scale spintronic structures: giant magnetoresistors or spin-dependent tunnel junctions. Both structures produce a large change in electrical resistance depending on the electron spin orientation in a free layer.

In giant magnetoresistance (GMR) devices, the resistance changes due to conduction electrons scattering at interfaces within the devices. The GMR effect is only significant if the layer thicknesses are less than the mean free path of conduction electrons, which is approximately five nanometers. Our critical GMR conductor layers are less than two nanometers thick.

The second type of spintronic structures we use is called spin-dependent tunnel junctions, also known as SDT junctions, Magnetic Tunnel Junctions (MTJs), or Tunneling Magnetic Junctions (TMJs). SDT junctions use tunnel barriers which must be so thin that electrons can tunnel through a normally insulating material to cause a resistance change. The SDT barrier thicknesses are in the range of one to two nanometers or approximately five molecules. Technological advances in recent years have made it practical to manufacture such small dimensions.

Both SDT junctions and GMR provide sensitivity that was previously possible only with super-cooling. In our products the spintronic elements are connected to integrated circuitry and packaged in much the same way as conventional integrated circuits.

## **Industry Background**

Much of the electronics industry is devoted to the acquisition, storage and transmission of information. Global trends such as richer data, more video, and remote data collection test the speed and capacity of conventional electronics.

The 1970s brought microelectronic devices including Hall effect sensors for data acquisition, semiconductor random access memory (commonly referred to as RAM) for data storage, and light-emitting diode-based opto-couplers for data transmission. There have been incremental improvements to these devices over the years, but the basic limitations of charge-based electronics remain.



We believe spintronics represents the first major change in microelectronic technology since the advent of these devices a generation ago. We believe memories, sensors, and couplers together represent a significant portion of the electronics industry, which can be addressed by spintronics.

Memories are a critical part of almost every electronic device. For some electronic device functions speed is required; others require a large amount of memory; and some require nonvolatility. No one semiconductor memory meets all three of these requirements. For example, a cellphone requires the bit density of DRAM for the operating software, the speed of SRAM for digital signal processing, and the nonvolatility of flash memory for phone books and other permanent storage. The three memories consume power and space. Because they use incompatible materials, the three memories are very difficult to combine with each other or with other cellphone circuitry in a single integrated circuit.

Potential near-term MRAM applications include mission-critical storage such as military and industrial applications. As its density increases and cost per bit decreases, MRAM could replace semiconductor memories in cellphones, computers, and other electronic devices enabling smaller, faster, and more power-efficient electronics.

Sensors are used to detect the position or speed of robotics and mechanisms in a number of applications. As factories and industrial controls become more automated, there is a need for more precise position sensing. We believe our spintronic sensors acquire information such as the position of a robot arm or the speed of a motor, faster and more accurately than existing devices. We believe this allows higher quality, lower-cost production of products such as automobiles.

Like sensors, couplers are also widely used in factory automation. Couplers provide reliable digital communication between the various electronic subsystems in factories. For example, couplers are used to send data between robots and central controllers at very high speed. As manufacturing complexity increases, there is a need for higher speed data and more data channels. Because of their unique properties, we believe our couplers transmit more data at higher speeds and over longer distances than conventional devices.

## **Our Strategy**

Our goal is to become the leading developer of practical spintronics technology and devices. We plan to do that through entering into new MRAM manufacturing partnerships, pursuing additional MRAM license agreements, expanding commercial product sales, and building intellectual property.

### ***Monetize MRAM Intellectual Property Through Manufacturing Partnerships***

Because of the large capital investment required to make large-scale memories, our strategy is to use manufacturing partnerships to monetize our MRAM intellectual property.

We expect to receive royalties, subject to certain terms and conditions, after Motorola goes into production, which is currently expected to occur in late 2004. Motorola has announced plans for stand-alone MRAM, as well as systems on chips for cellphones and other applications, which could contain embedded MRAM.

Rather than royalties, our agreement with Cypress gives us rights to their production designs and intellectual property, as well as rights to use Cypress factories to manufacture MRAMs for us. We plan to sell these devices in niche markets where we have a strong presence such as factory automation or military applications. We expect sales into such high value-added niches to command premium prices.

***Pursue Additional MRAM License Agreements***

We will pursue new license agreements. With technical feasibility of MRAM now more clearly demonstrated, we expect new agreements to be on more favorable terms than existing agreements. We have stepped up efforts to contact potential licensees. These discussions are mostly in early stages, and there can be no assurance when or if we will consummate additional agreements.

***Expand Commercial Product Sales***

We plan to broaden our sensor and coupler product lines using our proven building blocks and designs. We plan to promote new products with advertising and direct mail targeted primarily at factory/industrial controls and instrumentation markets. Our campaigns highlight the advantages of NVE devices compared to conventional devices. Examples include our *Hate Optos* and *Think Multi-Channel* campaigns.

***Build Intellectual Property and Support Product Development With Contract Research and Development***

Contract research and development was the source of our underlying patents and product developments, and still accounts for most of our revenues. As commercial product growth accelerates, we expect contract revenues as a percentage of total revenues to decline. We view repositioning contract research and development as a means of supporting product development rather than to remain merely a revenue source.

**Our Products and Markets**

Our product portfolio consists of three lines:

1. *Sensors* to quickly and precisely determine position;
2. *Couplers* which transmit digital data at high speed; and
3. *MRAM*, a revolutionary new type of memory.

Thus our products acquire, store, and transmit information.

***Sensor Products and Markets***

Our sensor products detect the presence of a magnet or metal to determine position or speed. The GMR changes its electrical resistance depending on the magnetic field. In our devices, GMR is combined with conventional foundry integrated circuitry and packaged in much the same way as conventional integrated circuits. Our sensors are quite small, very sensitive to magnetic fields, precise, and repeatable. This combination of attributes allows them to be used in a variety of industrial control applications such as robotics.

We have concentrated our sensor marketing efforts on pneumatic cylinder position sensing (CPS) components and assemblies, which are used in robotics and similar systems. Most of the leading CPS suppliers are currently using our sensors. In the past year we introduced several new sensor products, including rotational speed sensors and angle sensors.

Because of their small size and precise switching points, our sensors are also being used in implantable medical devices. We are developing sensors for other miniature medical devices, and we are developing automotive sensors as a potential future market.

***Coupler Products and Markets***

Our spintronic couplers, which are also known as isolators because they electrically isolate the coupled systems, add an IsoLoop, an integrated microscopic coil, to our basic GMR sensor element. The coil creates a small magnetic field that is picked up by the spintronic sensor, transmitting data almost instantly. IsoLoop couplers are more than twice as fast as the fastest optical couplers (110 million bits per second compared to 50 million bits per second).

Our couplers are sold primarily for factory and industrial networks, with broadband and telecommunications anticipated in the future.

***MRAM Products and Markets***

MRAM uses spintronics to store data, combining the speed of semiconductor memory with the nonvolatility of magnetic disk drives. MRAM is inherently nonvolatile, meaning the data remains even if power is removed.

MRAM has been called the holy grail of memory because it has the potential to combine the speed of SRAM, the density of DRAM, and the nonvolatility of flash memory.

Data is stored in the spin of the electrons in thin metal alloy films, and read with spin-dependent tunnel junctions. Unlike electrical charge, the spin of an electron is inherently permanent. In MRAMs, the spin of the electrons is set with tiny bursts of magnetism. We have invented several types of MRAM memory cells and modes of operation.

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In the near-term, MRAM could replace battery-backed-up SRAMs in mission critical systems such as military, factory control, point-of-sale terminals, and gaming electronics. MRAM has the potential advantages of being simpler, lower cost, and more reliable than battery/memory systems.

In the medium term, MRAM could find application in cellphones, where it can replace three types of memory and enable embedded designs such as cellphones on chips.

Long term, MRAM could address the market for ubiquitous high-density memory, where it could offer higher speed and nonvolatility, enabling a new generation of computers and other products.

### **Manufacturing**

Our factory is a clean-room area with specialized equipment to pattern, deposit, etch, and process spintronics materials. Most of our products are fabricated in our facility using either raw wafers or wafers containing conventional electronics, known as foundry wafers. Foundry wafers contain electronics that perform housekeeping functions such as voltage regulation and signal conditioning in our products.

A wafer includes thousands of devices. We add spintronics structures to the wafers in our factory, and then send the completed wafers to the Far East for cutting and packaging. The packaged parts are returned to us for testing, stocking, and shipment.

### **Distribution**

We rely primarily on indirect channels to sell our products. We have distributors who stock and sell our products throughout the world, including Digi-Key Corporation, one of this country's largest electronic component distributors. We also have a number of manufacturers representatives in the United States who sell but do not stock our products under agreements which are generally renewed annually. Agilent, a major supplier of solid-state couplers, distributes private-labeled versions of our couplers under an agreement that expires in 2008.

We plan to distribute MRAM through our existing distribution channels, as well as direct sales to the United States military and other large accounts. We may also add new representatives and distributors geared toward specialized and high-value memory products.

### **New Product Status**

We have announced and begun sampling several new products, including spintronic angle sensors, rotational speed sensors, low-power couplers, and five-channel couplers for factory and industrial markets.

In October 2003 Motorola announced it was sampling a 4-megabit MRAM. Motorola has said it expects to begin MRAM pilot production by late 2004. We believe that if Motorola commercializes devices described in their technical papers, they would use our intellectual property and we would therefore be due royalties.

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Cypress has released preliminary data sheets for 64 kilobit and 256 kilobit MRAMs which are pin-for-pin replacements for their SRAM. In March 2004, Cypress reported it had made working MRAM and was close to production-ready product.

## **Our Competition**

### ***MRAM Competition***

Most currently available memories are volatile, meaning data is lost when power is removed. Memories in this category include dynamic random access memory (DRAM) and static random access memory (SRAM). MRAM has the potential to match or exceed the speed of such memories without the volatility. Currently available nonvolatile memories include flash memories and ferroelectric random access memories (FRAMs). MRAMs are potentially faster and use less power than existing nonvolatile memories. Furthermore, existing nonvolatile memories can be written only a limited number of times before they wear out while MRAMs have virtually unlimited life.

We believe MRAM is potentially higher density than FRAM. Flash memory may be subject to scalability limitations which could limit its density in coming years. We do not believe MRAM is subject to such limitations.

Flash memory manufacturers include Advanced Micro Devices, Inc., Intel Corporation, Samsung Electronics Ltd., and STMicroelectronics NV. Current and potential FRAM manufacturers include Ramtron International Corporation, Infineon Technologies AG, Samsung Electronics Ltd., and STMicroelectronics NV, and Texas Instruments Inc.

Emerging technologies competing with MRAM include polymeric ferroelectric random access memory (PFRAM) ovonic unified memories (OUM), and carbon nanotubes. We believe that MRAM has advantages over these technologies and that it is closer to commercialization. Companies developing PFRAM include Thin Film Electronics ASA, Coatue, and Intel Corporation. Companies developing OUM include Ovonyx, Inc., Macronics International Co. Ltd., and Intel Corporation. Companies developing carbon nanotube memory include Nantero, Inc. and Intel Corporation.

A number of companies are competing with our licensees to develop MRAM products. Those competitors include Fujitsu Limited, Hewlett-Packard Company, IBM Corporation, Infineon Technologies AG, NEC Corporation, Samsung Electronics Ltd., Sony Corporation, Taiwan Semiconductor Manufacturing Corporation, and Toshiba Corporation.

Most of our MRAM competitors and potential competitors are established companies that have significantly greater financial, technical, and marketing resources than us.

### ***Sensor Competition***

Our three main sensor competitors are: 1) Honeywell, 2) Royal Philips Electronics, and 3) Allegro Microsystems, Inc. Honeywell and Philips make traditional nickel-iron anisotropic magnetoresistive (AMR) sensors. AMR sensors are used in automotive and high-performance industrial control systems. Unlike our GMR sensors, AMR sensors have flipping artifacts that we believe limit their usability. Flipping is when the device polarity is reversed when exposed to a stray magnetic field causing erroneous data. Allegro makes inexpensive silicon Hall sensors, but we believe Hall sensors are not as sensitive or precise as our products.

### ***Coupler Competition***

The two main competing digital couplers are opto-couplers and inductive couplers (transformers). Opto-couplers use light and light detectors to transmit information; transformers use magnetic fields transmitted between coils of wire. In addition to being a customer, Agilent, a Hewlett Packard spin-off, is a leading producer of high-speed opto-couplers. Other top opto-coupler suppliers are Vishay Intertechnology (formerly Infineon, a Siemens AG spin-off), NEC Corporation, Toshiba Corporation, and Fairchild Semiconductor International. Inductive couplers are made by a number of companies. We believe our couplers are considerably faster than even the fastest opto-couplers. Unlike our IsoLoop couplers, inductive couplers require special encoding to transmit logic signals. Furthermore, IsoLoop couplers require much less board space than most opto- or inductive couplers.

Analog Devices, Inc. (ADI) markets microelectronic mechanical system (MEMS) inductive couplers. While these devices are smaller than other inductive couplers, we believe our devices still offer more channel density, they are twice as fast as ADI's competing devices at the most common supply voltage, and they produce less signal distortion than ADI devices.

We make several network signal couplers that combine spintronics coupling with network protocol functions in a single package. Our competitors in this area include Linear Technology Inc. and Maxim Products. Based on a comparison of published specifications, we believe our devices are 100 times faster than the Linear Technology Inc. and Maxim Products network signal couplers.

### **Principal Suppliers**

Our principal suppliers include manufacturers of semiconductor wafers which are incorporated into our products. These include Advanced Semiconductor Manufacturing Corporation of Shanghai (China), AMI Semiconductor, Inc., Intersil Corporation, Taiwan Semiconductor Manufacturing Corporation, and Texas Instruments Inc.

Other companies supply our device packaging services, including Circuit Electronics Industries (Ayutthaya, Thailand), and NS Electronics Bangkok (Thailand), Ltd.

We maintain inventory of some critical wafers, but we have not identified or qualified alternate suppliers for many of the wafers now being obtained from single sources. Some of our products use processes or tooling unique to a particular packaging vendor, and it might be expensive, time-consuming, or impractical to convert to another vendor in the event of a supply interruption. Supply interruptions could seriously jeopardize our ability to provide products that are critical to our business and operations.

### **Major Customers**

We have several major customers including Agilent Technologies, Inc., St. Jude Medical, Inc., the United States Government, and certain distributors. Orders from these customers can be cancelled, postponed, or reduced without cause or notice, and the loss of any of these customers could have a significant impact on our commercial revenues and our profitability.

### **Intellectual Property**

#### ***Patents***

As of March 31, 2004 we had 29 United States patents issued, and our technology is protected by more than 100 patents worldwide either issued, pending or licensed from others. We are continuing to develop and intend to add to our patent portfolio. There are no patents we regard as critical to our business owned by us or licensed to us that expire in the next 12 months.

We believe our 6,275,411 and 6,349,053 patents, both of which are entitled *Spin Dependent Tunneling Memory*. Both patents cover MRAMs using arrays of Magnetic Tunnel Junctions. Based on their public disclosures, we believe several companies are pursuing the approach described in these patents. The 6,275,411 patent expires in 2019 and the 6,349,053 patent expires in 2021.

#### ***Trademarks***

Our trademarks include *GMR Switch* and *GT Sensor*. *IsoLoop* is our registered trademark.

#### ***Licenses***

We have licensed certain MRAM intellectual property to several companies. Our current MRAM licensees include Cypress Semiconductor Corporation, Honeywell International, Union Semiconductor Technology Corporation, and Motorola, Inc. We have received advance payments in conjunction with the Honeywell, USTC, and Motorola agreements, and we expect to receive royalties under the Motorola and USTC agreements if and when those licensees begin selling devices using our intellectual property. Both agreements contain royalty limitations, specifically minimum quantities before royalties are paid and ceilings on the royalties we will receive. As a further royalty limitation, the Motorola agreement provides for royalties only on the portion of the die containing our MRAM technology.

#### ***Agreements with Honeywell***

Under our agreements with Honeywell we will not be paid royalties by Honeywell if they utilize our MRAM intellectual property, and we do not expect to pay royalties to Honeywell for the use of their MRAM intellectual property.



*Cypress Technology Exchange Agreement*

Under our technology exchange agreement with Cypress, each party gained rights to the other party's MRAM intellectual property and patents. We believe the Cypress partnership significantly strengthens our intellectual property portfolio by giving us rights to large-scale MRAM designs as well as rights to interface circuitry needed for large-scale memories. We also have rights to all of Cypress' MRAM intellectual property existing now and in the future, including MRAM designs and mask works.

*Royalty Agreement*

We have licensed rights to another organization's GMR-related patent, and that agreement calls for us to pay royalties on our sales of certain products. Payments under this agreement have not been material to date. The agreement could remain in force until cumulative royalties of \$1.2 million have been paid.

**Research and Development Activities**

We invested \$6,382,865 and \$5,888,781 in the years ended March 31, 2004 and 2003 on research and development. All but \$1,103,062 and \$1,308,129 were funded by customers through research and development contracts. Most of our research and development contracts are with the U.S. government.

Near-term research programs include advanced sensors and couplers. Long-term research programs include ultrahigh density MRAM, bio-sensors, and spintronics in semiconductors (also known as SPINS). Eventually, SPINS could enable quantum computing, displacing conventional semiconductors.

**Governmental Regulations**

We are subject to various local, state and federal laws, regulations and agencies that affect businesses generally. These include regulations promulgated by federal and state environmental and health agencies, the federal Occupational Safety and Health Administration, and laws pertaining to the hiring, treatment, safety and discharge of employees.

Federal regulations require a business to be at least 51% owned by one or more individuals to be eligible to compete for Small Business Innovation Research (SBIR) awards. While we believe we currently meet the 51% ownership rule, changes in our capital structure or purchases by entities in the open market or by other means could cause us to become ineligible.

### **Our Employees**

As of March 31, 2004, we had 70 employees, 63 of whom were full-time. Of our full-time employees, there were six general and administrative employees, five sales and marketing employees, 28 technicians, and 24 scientists. Twelve employees have earned doctorate degrees. None of our employees is represented by a labor union or is subject to a collective bargaining agreement, and we believe we maintain good relations with our employees.

### **Web Site Access to Our Commission Filings**

All reports we file with the Securities and Exchange Commission, including our annual reports on Form 10-KSB, quarterly reports on Form 10-QSB, and current event reports on Form 8-K, as well as any amendments to those reports, are accessible at no cost through the Investor Relations section of our Web site at [www.nve.com](http://www.nve.com). These filings are also accessible on the SEC's Web site at [www.sec.gov](http://www.sec.gov).

### **ITEM 2. DESCRIPTION OF PROPERTY.**

Our principal executive offices and manufacturing facility are located at 11409 Valley View Road, Eden Prairie, Minnesota 55344. The space consists of 21,362 square feet of offices, laboratories, and production areas. The space is owned and managed by Glenborough Properties, L.P. and is leased to us under an agreement expiring December 31, 2008. We believe the building is adequately insured.

We plan to expand our clean-room production area in the coming year to support continued growth in product sales. We plan to finance the expansion through operating profits and a rent credit for that purpose from the building owner.

NVE holds no investments in real estate, real estate mortgages or securities of persons primarily engaged in real estate activities.

### **ITEM 3. LEGAL PROCEEDINGS.**

In the ordinary course of business we may become involved in litigation. At this time, we are not aware of any material pending or threatened legal proceedings or other proceedings contemplated by governmental authorities that would have a material impact upon us.

### **ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS.**

No matters were submitted to security holders during the quarter ended March 31, 2004.

**PART II**

**ITEM 5. MARKET FOR COMMON EQUITY AND RELATED STOCKHOLDER MATTERS.**

Our common stock trades on The NASDAQ SmallCap Market under the symbol NVEC. Prior to January 22, 2003, our Common Stock was traded on the Over-the-Counter Bulletin Board. The following data set forth, for the fiscal quarters indicated, a summary of the high and low sales price of our Common Stock as reported on NASDAQ SmallCap Market or the Over-the-Counter Bulletin Board without retail mark-up, mark-down or commissions, and may not represent actual transactions. Data prior to our one-for-five reverse split effective November 22, 2002 are adjusted for the split.

We have never paid or declared any cash dividends on our common stock. We do not anticipate paying any dividends in the foreseeable future, and intend to retain any earnings we may generate to provide for the operation and projected expansion of our business.

On November 11, 2002, we announced that our board of directors had authorized the repurchase of up to 50,000 shares of our Common Stock. The program expired May 25, 2003 and we did not repurchase any shares under the program.

As of March 31, 2004 we had approximately 144 shareholders of record and approximately 11,200 total shareholders.

**ITEM 6. MANAGEMENT'S DISCUSSION AND ANALYSIS OR PLAN OF OPERATION.**

**General**

We develop and sell devices using spintronics, a technology we helped pioneer, which utilizes electron spin rather than electron charge to acquire, store, and transmit information. Our products include magnetic sensors to acquire ultra-precise data such as the position of a robot arm, and couplers to transmit data between electronic systems at very high speed. We are also a licensor of spintronics/magnetic random access memory technology, commonly referred to as MRAM, which we believe has the potential to revolutionize electronic memory.

Our strategy is to continue to rapidly expand our product revenues while relying on government contracts for basic technology development. The expansion of product revenue will require additional product development and marketing expenditures as well as working capital to fund receivables and inventories.

**Critical Accounting Policies**

It is important to understand our significant accounting policies in order to understand our financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. These accounting principles require us to make estimates and assumptions that affect amounts reported in our financial statements and the accompanying notes. Actual results are likely to differ from those estimates, but we do not believe such differences will materially affect our financial position or results of operations for the periods presented in this report.

***Revenue Recognition***

Revenue from product sales is recognized when title transfers, generally upon shipment. Revenue from licensing and technology development programs, which is nonrefundable and for which no significant future obligations exist, is recognized when the license is signed. Revenue from licensing and technology development programs, which is refundable, recoupable against future royalties, or for which future obligations exist, is recognized when we complete our obligations under the terms of the agreements. Revenue from royalties is recognized upon the shipment of product from our technology license partners to direct customers. Certain research and development activities are conducted for third parties and such revenue is recognized as the services are performed. Payments received from licensing and technology development programs relating to future obligations as well as prepayments for future discounts on product sales are recorded as deferred revenue.

***Bad Debt***

We maintain an allowance 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.

***Inventory***

We reduce the stated value of our inventory for excess quantities or obsolescence in an amount equal to the difference between the cost of inventory and the estimated market value based upon assumptions about future demand and market conditions. Additional reductions in stated value may be required if actual future demand or market conditions are less favorable than we projected.

***Income Taxes***

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In determining the carrying value of our net deferred tax assets, we must assess the likelihood of sufficient future taxable income in certain tax jurisdictions, based on estimates and assumptions to realize the benefit of these assets. We evaluate the realizability of the deferred assets quarterly and assess the need for valuation allowances or reduction of existing allowances quarterly. In fiscal 2004 we reduced the amount of our valuation allowance based upon our cumulative income over the past three years and our expectation of income in fiscal 2005.

**Results From Operations**

The table shown below summarizes the percentage of revenue for the various items for the periods indicated:

	Year Ended March 31	
	2004	2003
Revenue:		
Research and development	55.1%	69.4%
Product sales	44.9	26.5
License fees	0.0	4.1
Total revenue	100.0	100.0
Cost of sales	62.0	62.6
Gross profit	38.0	37.4
Total expenses	22.4	30.6
Income tax benefit	(1.9)	
Net income	17.5%	6.8%

Revenue for the year ended March 31, 2004 (fiscal 2004) was \$12,010,851, an increase of 27% from revenue of \$9,447,490 for the year ended March 31, 2003 (fiscal 2003). The revenue increase was due to increases in commercial product sales and research and development revenue. Commercial product sales increased 115% to \$5,393,540 from \$2,503,096. The increase was due in part to increased sales to St. Jude Medical, Inc. to fill supply pipelines related to the expanded use of our parts.

Research and development revenue increased 1% to \$6,617,311 from \$6,552,730 due to increased government contract revenue. Increases in commercial product sales and research and development revenue were partially offset by the cessation of license revenues, which were \$391,664 in fiscal 2003. The lack of license revenue was due to completion of revenue recognition for our MRAM license agreements.

Research and development expenses decreased by 16% to \$1,103,062 for fiscal 2004 as compared to \$1,308,129 in fiscal 2003. The decrease was due to lower development expenses early in the fiscal year.

Gross profit margins increased to 38% for fiscal 2004 as compared to 37% for fiscal 2003. Gross profit on commercial product sales increased due to higher yields on commercial products.

Selling, general and administrative expenses remained relatively constant for fiscal 2004 at \$1,831,542 compared to \$1,837,549 for fiscal 2003.

Income tax benefit for fiscal 2004 is primarily the result of \$250,000 of the remaining valuation allowance reversed due to our assessment that it is more likely than not that we will earn sufficient operating income to realize \$250,000 of the remaining deferred tax assets.

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Net income totaled \$2,107,720 for fiscal 2004 compared to net income of \$646,850 for fiscal 2003. The increase in net income was due to the increase in commercial product sales and higher gross profit on commercial product sales.

### **Liquidity and Capital Resources**

At March 31, 2004 we had \$7,544,643 in cash and available-for-sale securities, consisting of marketable fixed-income investments. The increase in cash and available-for-sale securities was due to operating profits and proceeds from the exercise of incentive stock options, partially offset by investments in property, plant and equipment. We believe our working capital is adequate for our needs at least through the year ending March 31, 2005 (fiscal 2005).

### **Outlook**

We expect commercial product revenues to continue to grow in fiscal 2005. We plan to continue our business strategy, including the support of a planned ramp-up in shipments to Agilent, new products, and possible sales of MRAM as a result of our technology agreement with Cypress.

Sales to St. Jude Medical began to drop off in early calendar year 2004 as some of their purchases in calendar year 2003 were to fill supply pipelines related to their expanded use of our products. We hope to replace those revenues with new sales to Agilent, sensors, couplers, or MRAM.

Gross profit margins could decrease in fiscal 2005 as competitive pressures could force us to decrease our selling prices.

Research and development expenses increased in the latter half of fiscal 2004. We expect expenses to continue at higher levels in fiscal 2005 as we develop new products.

We have been profitable for eight consecutive quarters and expect to be profitable in fiscal 2005, however we expect expenses to increase in fiscal 2005 if we rollout MRAM manufactured under our technology agreement with Cypress. We may also increase expenditures relating to pursuing additional MRAM license agreements. Our legal expenses relating to enforcing our MRAM intellectual property may also increase. These additional expenses could lead to operating losses.

Our growth has required expanding our manufacturing capacity. We have purchased several new pieces of production equipment in the past year. We plan to purchase additional production equipment and expand our clean-room factory in the coming year to support continued growth in product sales, to reduce labor costs and to increase manufacturing yields.

### **Foreign Currency Transactions**

Due to product sales abroad, we have some limited revenue risks from fluctuations in values of foreign currency. Foreign sales are generally made in United States currency, and currency transaction gains or losses in the past two fiscal years were not significant.

### **Inflation**

Inflation has not had a significant impact on our operations since our inception. Prices for our products and for the materials and labor going into those products are governed by market conditions. It is possible that inflation in future years could impact both materials and labor in the production of our products. Rates paid by the United States Government on research and development contracts are adjustable with inflation.

### **Risk Factors**

#### ***Risks Related to Our Business***

*Although we were profitable in the most recent fiscal years, we have a history of operating losses and could suffer further losses in the future.*

We had an accumulated deficit of \$2,699,768 as of March 31, 2004. Although we reported positive net income in fiscal 2004 and fiscal 2003, prior to fiscal 2003 we had a history of losses. Additional expenditures could lead to operating losses in fiscal 2005 and beyond. Possible expenditures include start-up costs associated with manufacturing, marketing, and selling MRAM devices, expenditures relating to pursuing additional MRAM license agreements, and legal expenses relating to enforcing our MRAM intellectual property.

*We rely on government contracts for a large percentage of our revenues and we will lose revenue if we lose these contracts.*

During fiscal 2004 United States government contracts accounted for approximately 54% of our revenues. Disqualification as a vendor to the United States government for any reason or a material decrease in government funding research would cause serious setbacks and would likely hamper both future research and development activity, as well as related revenues.

*Failure to qualify as a small business under federal regulations could make us ineligible for some government-funded research grants which could have a significant impact on our revenue and our ability to make research and development progress.*

Federal regulations place a number of criteria for a business to be eligible to compete for Small Business Innovation Research (SBIR) awards. Those criteria include number of employees and ownership structure. While we believe we meet the criteria, changes in our ownership beyond our control could cause us to lose our eligibility to compete for SBIR awards, which in turn could have a material adverse effect on our revenues, profits, and research and development efforts.

*We may lose revenue if any of our large customers cancel, postpone, or reduce their purchases.*



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We rely on several large customers for a large percentage of our commercial revenues; these include Agilent Technologies, Inc., St. Jude Medical, Inc., the United States Government, and certain distributors. Orders from these customers can be cancelled, postponed, or reduced without cause or notice, and the loss of any of these customers could have a significant impact on our commercial revenues and our profitability.

*We face a difficult and uncertain economic environment in our industry which could adversely affect our business and operations.*

The semiconductor and electronics industries in general have experienced a significant economic downturn during the past two years. The poor economic environment may have adversely affected the sales of many of our customers' products, thus limiting our sales. Economic conditions may not improve in the near term or at all. Any failure of the economic environment to improve or a future downturn would likely have a material adverse impact on our business and revenues.

*Our reputation could be damaged and we could lose revenue if we fail to meet technical challenges required to produce marketable products.*

Our products use new technology and we are continually researching and developing product designs and production processes. Our production processes require control of magnetic and other parameters that are not required in conventional semiconductor processes. If we are unable to develop stable designs and production processes we may not be able to produce products that meet our customers' requirements, which could cause damage to our reputation and loss of revenues.

*We may lose business and revenue if our critical production equipment fails.*

Our production process relies on certain critical pieces of equipment for defining, depositing, and modifying the magnetic properties of very thin metal films. Some of this equipment was designed or customized by us, and some may no longer be in production. While we have back-ups for some of the equipment, an in-house maintenance staff, some critical spare parts, and maintenance agreements for certain pieces of equipment, we cannot be sure we could repair or replace critical manufacturing equipment were it to fail.

*Our failure to meet stringent customer technical requirements could result in the loss of key customers and potential reduced sales.*

Some of our customers, including Agilent and St. Jude Medical, have stringent technical requirements which require our products to pass certain test and qualification criteria before they are accepted by such customers. Failure to meet those criteria could result in the loss of current sales revenue, customers and future sales.

*If we are unable to deliver products we face penalties, including loss of certain exclusive manufacturing rights.*

Our Agilent supply agreement allows Agilent to gain rights to manufacture couplers based on our technology if we are unable to deliver products on time. The imposition of this penalty could have a material impact on future sales of our products. Furthermore, on reaching certain sales goals, Agilent could gain exclusive rights to distribute certain couplers based on our technology, which could reduce our product sales and leave us partially or totally dependent on Agilent for future coupler sales.

*The loss of supply from any of our key single-source suppliers could impact our ability to produce and deliver products and cause loss of revenue.*

Critical suppliers include our suppliers of certain semiconductor wafers which are incorporated in our products. These critical suppliers include Advanced Semiconductor Manufacturing Corporation of Shanghai (China), AMI Semiconductor, Inc., Intersil Corporation, Taiwan Semiconductor Manufacturing Corporation, and Texas Instruments Inc. We maintain inventory of some critical wafers, but we have not identified or qualified alternate suppliers for many of the wafers now being obtained from single sources. We are also dependent on our packaging vendors, including Circuit Electronics Industries (Ayutthaya, Thailand), and NS Electronics Bangkok (Thailand), Ltd. Some of our products use processes or tooling unique to a particular packaging vendor, and it might be expensive, time-consuming, or impractical to convert to another vendor in the event of a supply interruption. Supply interruptions could seriously jeopardize our ability to provide products that are critical to our business and operations which may cause us to lose revenue.

*Because we are significantly smaller than the majority of our competitors, we may lack the financial resources needed to increase our market share and future revenue.*

Our known competitors and potential competitors include Advanced Micro Devices, Inc., Agilent Technologies, Inc., Allegro Microsystems, Inc., NEC Corporation, Analog Devices, Inc., Fujitsu Limited, Hewlett-Packard Company, IBM Corporation, Infineon Technologies AG, Intel Corporation, NEC Corporation, Ramtron International Corporation, Royal Philips Electronics, Samsung Electronics, Ltd., Sony Corporation, Texas Instruments Inc., Vishay Intertechnology, Xicor, Inc., and others. We believe that our competition has increased in the past year as the technology matures. This has meant more competitors and more severe pricing pressure. Furthermore, our competitors are narrowing or eliminating performance advantages we may have had. We expect these trends to continue, and our future competitiveness will depend on our ability to develop new products and reduce our product costs. Most of our competitors and potential competitors are established companies that have significantly greater financial, technical, and marketing resources than us. While we believe that our products have important competitive advantages, our competitors may succeed in developing and marketing products that perform better or are less expensive than ours, or that would render our products and technology obsolete or noncompetitive.

*Our license agreements include revenue minimums and royalty limits which could limit the total amount of revenue we can derive under these agreements.*

Our existing license agreements do not provide for us to receive royalties until revenue minimums are met by licensees. In addition, some of these agreements place limits on future royalty and license payments. These provisions could substantially delay our potential revenues and profits from these licensing arrangements and could limit the total amount of revenue that we can derive under these license agreements. Such limits are common practice in our industry, but they could limit our potential MRAM revenues and profits even if our intellectual property is widely adopted.

*Our business may suffer because we have limited influence over the rate of adoption of our technology, and MRAM technology may not build into a large or significant market*

A significant portion of our future revenues and profits is dependent on our licensees and manufacturing partners introducing MRAM products. Production difficulties, technical barriers, high production costs, poor market reception or other problems, almost all of which are outside our control, could prevent the deployment of MRAM or limit its market potential. In addition, our licensees and manufacturing partners may have

other priorities that detract attention and resources from introduction of MRAM products using our technology. Furthermore, competing technologies could prevent or supplant MRAM from becoming an important memory technology.

*Our licensees may not be able to make commercially viable MRAMs, which would limit our revenue from MRAM and likely cause our stock price to decline.*

MRAM is a new technology, and we are almost completely dependent on our licensees to convert our intellectual property into commercially viable MRAM. While our licensees have made prototypes and samples, several technical and manufacturing issues must be resolved before commercially viable devices can be produced, and these problems may never successfully be solved. Cypress has said they have made working MRAM, but has missed several schedule targets for sample devices, and further delays could have a material impact on our revenues from MRAM. Motorola has announced plans for pilot production by late 2004, but any delays could have a material impact on our potential MRAM license revenues.

*We are highly dependent on Motorola to combine our MRAM technology with conventional semiconductors and we may lose potential revenue if Motorola is unsuccessful.*

Embedded MRAM, that is, MRAM combined with conventional semiconductors, is a major market for MRAM and our primary potential source of royalties from Motorola. We are highly dependent on Motorola's success embedding MRAM into processor and cellphone integrated circuits. Technical difficulties with embedding, production difficulties, high production costs, or other problems, almost all of which are outside our control, could limit our potential MRAM royalties.

*We are highly dependent on Cypress for potential supply of MRAM devices using their designs and may lose revenue if we need to replace Cypress as a supplier.*

Although we have rights to Cypress MRAM designs, mask works, and other intellectual property, it could be difficult for us to fabricate devices based on those designs and intellectual property at a foundry other than Cypress. This is because other potential foundries might not have the needed equipment, and Cypress designs are tailored for their factories. If Cypress is unable to manufacture devices for us for any reason, it could be difficult for us to find another manufacturer for their designs.

*Cypress could cancel their MRAM development program, which would reduce our future revenue because we could no longer sell devices based on their designs.*

Cypress could cancel their MRAM development program at any time because of financial or other consideration. A cancellation of their MRAM program would likely eliminate our opportunity to sell devices based on their designs.

*Our future business may suffer because we may not be able to consummate additional MRAM license agreements.*

Although there are potential licensees for our MRAM intellectual property in addition to our current licensees and partners, we may never be able to consummate additional license agreements. Potential licensees for our MRAM intellectual property might not be interested unless and until the commercial viability of the technology is demonstrated. Potential licensees could also use their own or a third party's MRAM intellectual property rather than ours. In addition, our existing agreements place restrictions on future license agreements. Specifically, one of our agreements allows one of our licensees to approve licenses with certain other potential licensees. Each of these limitations could hinder our ability to consummate additional MRAM license agreements.

*We will not receive royalties if our licensees do not use our intellectual property.*

Our license agreements do not require our licensees to use our intellectual property. Although we believe, based on their public disclosures, that the devices that Motorola, Inc. and Cypress Semiconductor Corporation have demonstrated would use our intellectual property at least to some extent, our licensees could circumvent or find alternatives to all or some of our technology, and our license agreements require royalty payments only if our licensees use our intellectual property in their devices. It is possible that our licensees might make MRAM devices without using our technology or infringing on our patents, and we would not receive royalties on such devices.

*We may not be able to enforce our intellectual property rights or our technology may prove to infringe upon patents or rights owned by others which may prevent the future sale of our products or increase the cost of such sales.*

We protect our proprietary technology and intellectual property by seeking patents, trademarks, and copyrights, and by maintaining trade secrets through entering into confidentiality agreements with employees, suppliers, customers, and prospective customers depending on the circumstances. We hold patents or are the licensee of others owning patented technology covering certain aspects of our sensor, coupler, and MRAM technology. These patent rights may be challenged, rendered unenforceable, invalidated or circumvented. In addition, rights granted under the patents or under licensing agreements may not provide a competitive advantage to us. At least several potential MRAM competitors have described designs that we believe would infringe on our patents if such designs were to be commercialized. Efforts to legally enforce patent rights can involve substantial expense which we may not be able to afford and in any case may not be successful. Further, others may independently develop similar, superior, or parallel technologies to any technology developed by us, or our technology may prove to infringe upon patents or rights owned by others. Thus the patents held by or licensed to us may not afford us any meaningful competitive advantage. Also, our confidentiality agreements may not provide meaningful protection of our proprietary information. Our inability to maintain our proprietary rights could have a material adverse effect on our business, financial condition and results of operations.

*Our future business may suffer if we are unable to enforce our intellectual property rights with existing licensees.*

Our success in enforcing our intellectual property rights may be dependent on our ability to enforce our contract rights under existing license agreements. Our existing licensees could claim without merit that they do not use our intellectual property or claim that one or more of our patents are invalid. In 2000 we were forced to resort to litigation to enforce our intellectual property rights with Motorola, and we plan to continue to vigorously defend our intellectual property rights.

*Our business success may be adversely affected if we are unable to attract and retain highly-qualified management and technical employees.*

We have no employment agreements with any of our management other than our Chief Executive Officer, Dr. Baker, and have no key-person insurance covering employees. Competition for highly-qualified management and technical personnel is generally intense and we may not be able to attract and retain the personnel necessary for the development and operation of our business. The loss of the services of key personnel could have a material adverse effect on our business, financial condition and results of operations. Our Chief Technology Officer, Dr. Daughton, may decide to retire at any time in the next several years, and we may not be able to replace his technical or contract development expertise.

***Risks Related to Buying Our Stock***

*Our stock has been more volatile than other technology sector stocks.*

The market price of our common stock has experienced significant fluctuations and may continue to fluctuate in the future. These fluctuations have been greater on a percentage basis than other technology sector stocks.

*Our stock may be subject to volatility because it is not listed on a national market.*

Our common stock is traded on the NASDAQ SmallCap Market, which has less daily trading volume on average than the average trading market for companies quoted on the NASDAQ National Market or the New York Stock Exchange. A public trading market having the desired characteristics of depth, liquidity and orderliness depends on the presence in the marketplace of willing buyers and sellers of our common stock at any given time. This presence depends on the individual decisions of investors and general economic and market conditions over which we have no control.

*The price of our common stock may be adversely affected by significant price fluctuations due to a number of factors, many of which are beyond our control.*

The market price of the common stock may be significantly affected by many factors, including:

technological innovations by us, our licensees, or our competitors;

the announcement of new products or product enhancements by us, our licensees, or our competitors;

changes in requirements or demands for our products;

changes in prices of our or our competitors' products and services;

quarterly variations in our operating results;

changes in our revenue and revenue growth rates;

changes in revenue estimates, earnings estimates, or market projections by market analysts, speculation in the press or analyst community;

short selling and covering of short positions in our stock; and

general market conditions or market conditions specific to particular industries.

The stock prices for many companies in the technology sector have experienced wide fluctuations that often have been unrelated to their operating performance. Such fluctuations may adversely affect the market price of our common stock.

**ITEM 7. FINANCIAL STATEMENTS.**

Financial Statements and Notes are in this report following the signature page.

**ITEM 8. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.**

None.

**ITEM 8A. CONTROLS AND PROCEDURES.**

**Evaluation of Disclosure Controls and Procedures.**

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act) as of the end of the period covered by this annual report (the Evaluation Date). Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of the Evaluation Date, our disclosure controls and procedures were effective in timely alerting them to the material information relating to us required to be included in our periodic SEC filings.

**Changes in Internal Controls.**

There were no significant changes made to our internal control over financial reporting (as defined in Rule 13 a-15(f) under the Exchange Act) during the period covered by this report that materially affected or are reasonably likely to materially affect our internal control over financial reporting.

## PART III

**ITEM 9. DIRECTORS, EXECUTIVE OFFICERS, PROMOTERS AND CONTROL PERSONS; COMPLIANCE WITH SECTION 16(A) OF THE EXCHANGE ACT.****Shareholder Proposals for Nominations to Our Board**

The discussion under the section entitled "Nominating/Corporate Governance Committee Shareholder Nominees" to be included in our Proxy Statement for our 2004 Annual Meeting of Shareholders is incorporated herein by reference.

**Directors and Executive Officers**

The following table sets forth certain information regarding our executive officers and directors. Each director and executive officer is elected annually and serves for a term of one year or until his successor is duly elected and qualified.

NAME AND POSITION	AGE
Terrence W. Glarner Director and Chairman of the Board	61
Daniel A. Baker Director, President, and Chief Executive Officer	46
Richard L. George Treasurer and Chief Financial Officer	60
James M. Daughton Director and Chief Technical Officer	67
Robert H. Irish Director	64
Jeffrey K. Kaszubinski Director	48

*Terrence W. Glarner* has been a director since August 1999, and Chairman of the Board since January 2001. Since February 1993, Mr. Glarner has been the President of West Concord Ventures, Inc. Mr. Glarner also consults with Norwest Venture Partners. Prior to starting West Concord Ventures, Mr. Glarner was the President of North Star Ventures, Inc. from 1988 to February 1993, a firm which he joined in 1976. From 1968 to 1976, Mr. Glarner was a Securities Analyst and Vice President in the Research Department of Dain Bosworth, Inc. Mr. Glarner has a B.A. in English from the University of St. Thomas, a J.D. from the University of Minnesota School of Law and is a Chartered Financial Analyst. Mr. Glarner supervised investments in approximately 100 small companies during his involvement with North Star Ventures. Mr. Glarner currently serves as a director of the following publicly-held companies: Aetrium Inc., CIMA Laboratories Inc., Datakey Inc., and FSI International Inc. He is also a director of privately-held Oncotech, Inc.



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**Daniel A. Baker** has been a director and the President and Chief Executive Officer since January 2001. From 1993 until joining NVE, he was President and CEO of Printware, Inc., now known as Printware LLC, which makes high-speed laser imaging systems. Dr. Baker has over 25 years of experience in high-tech industries, including executive positions with Minntech Corporation and Percom Data Corporation. Dr. Baker has Ph.D. and M.S. degrees in engineering from the University of Minnesota, an M.B.A. in finance from the University of Minnesota, and a B.S. in engineering from Case Western Reserve University.

**Richard L. George** has served as the Treasurer and Chief Financial Officer of NVE since March 1995. From 1991 to 1995, Mr. George served as Controller for NVE. From 1966 to 1991, Mr. George held various financial and financial management positions in the areas of operations and contracts at Honeywell Inc. Mr. George received a B.A. in economics in 1966 from the University of Minnesota, where he later took graduate courses in law and management.

**James M. Daughton** has been a director since our inception in 1989 and Chief Technical Officer since January 2001. He served as Chairman of the Board and Chief Executive Officer from 1991 to January 2001. From 1974 to 1989, Dr. Daughton held various research and product development positions at Honeywell, Inc. including Vice President of The Solid State Development Center. From 1964 to 1974, he developed magnetic and semiconductor memory devices at IBM Corporation. Dr. Daughton holds a doctorate in electrical engineering from Iowa State University and is an adjunct professor of physics at the University of Minnesota.

**Robert H. Irish** has been a director since 1992. Mr. Irish has been a consultant since 1999. From 1994 to 1999 he held various sales and sales management positions at Compuware and Prodea Software. From 1988 to 1994, Mr. Irish acted as a consultant and co-investor with Norwest Venture Partners. From 1981 to 1988, he was the Executive Vice President of Centron DPL, responsible for technical marketing, product marketing and research and development. Mr. Irish worked at IBM in management, sales and systems from 1966 to 1981. Mr. Irish attended Rensselaer Polytechnic Institute and received a B.S. in Physics from Syracuse University.

**Jeffrey K. Kaszubinski** has been a director since July 2002. Mr. Kaszubinski is currently President and Chief Executive Officer of Silicon Magnetic Systems, a Cypress subsidiary corporation which is developing MRAM technology and products. He has worked in the semiconductor memory business for 25 years, the past 15 at Cypress Semiconductor in a variety of executive positions, including product line management, manufacturing, quality assurance, and engineering. Prior to joining Cypress, Mr. Kaszubinski worked at Texas Instruments Inc., where he led the development of groundbreaking nonvolatile memories. Mr. Kaszubinski received a BSEE degree in 1978 from the University of New Orleans and holds five nonvolatile memory patents.

### **Key Employees**

**John K. Myers**, Vice President of Development, age 55, joined NVE in 1997 as Vice President of New Business Development. Mr. Myers has over 30 years of experience in management and new business development in the semiconductor and other industries. Prior to joining NVE he held management positions with FSI International and the Allen-Bradley Company. Mr. Myers holds BSEE and M.B.A. degrees from the University of Minnesota.

**Jay L. Brown**, Vice President, Sensor Business Unit, age 45, has been with NVE for over ten years, and responsible for NVE's sensor business for the past six years. He was promoted to Vice President in 2000. In his current position he manages sensor sales and marketing, customer engineering, and product engineering. Previously at NVE, Mr. Brown designed circuits and managed a number of key programs. Prior to joining NVE, he was an engineer at St. Jude Medical, Inc. Mr. Brown earned a B.S. degree in electrical engineering from Minnesota State University-Mankato.

**Anthony F. Leali**, Director of Standard Product Sales, age 46, has been with NVE since 2001 and has over 15 years of sales and engineering experience. Prior to joining NVE, he held sales management positions with Unique Technologies and Future Electronics, Inc., both distributors of semiconductor devices. He has a B.S. in Electrical Engineering from the University of Minnesota and an M.B.A. from the University of St. Thomas.

**Curt A. Reynders**, age 41, has been NVE's Controller since 2001. From 1987 through 2001, Mr. Reynders served in various accounting and accounting management positions with public accounting and industry firms. Mr. Reynders is a Certified Public Accountant and earned a B.S. in Accounting and Economics from Morningside College.

### **Audit Committee Financial Expert**

Our Board of Directors has determined that Terrence W. Glarner qualifies as an audit committee financial expert, as such term is defined in recently adopted rules of the Securities and Exchange Commission implementing requirements of the Sarbanes-Oxley Act of 2002, and that Mr. Glarner is independent under the corporate governance rules of the Nasdaq Stock Market.

### **Code of Ethics**

We have adopted a Code of Business Conduct and Ethics that applies to all of our employees and directors, including our principal executive officer, principal financial officer and principal accounting officer. The Code of Business Conduct and Ethics is filed as Exhibit 14 to this report. We have also posted a copy of the Code of Business Conduct and Ethics under the under Investor Relations section of our Web site ([www.nve.com](http://www.nve.com)). You may obtain a copy of the Code of Business Conduct and Ethics without charge by contacting Richard L. George, our Chief Financial Officer.

The discussion under the section entitled "Section 16(a) Beneficial Ownership Reporting Compliance" to be included in our Proxy Statement for our 2004 Annual Meeting of Shareholders is incorporated herein by reference.

### **ITEM 10. EXECUTIVE COMPENSATION.**

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The information required by Item 10 is incorporated herein by reference to the sections entitled Executive Compensation and Proposal 1. Election of Board of Directors Compensation of Our Directors to be included in our Proxy Statement for our 2004 Annual Meeting of Shareholders.

### **ITEM 11. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT.**

The information required by Item 11 is incorporated herein by reference to the sections entitled Ownership of Voting Securities by Principal Holders and Management and Executive Compensation Equity Compensation Plan Information to be included in our Proxy Statement for our 2004 Annual Meeting of Shareholders.

### **ITEM 12. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS.**

We have a license agreement with Cypress where each party gained rights to certain of the other party's patents and other intellectual property, and Cypress agreed to produce semiconductor wafers for us. Cypress was also granted a warrant to purchase up to 400,000 shares of our common stock. Jeffrey K. Kaszubinski, a member of our board of directors, is a Cypress employee and was designated for nomination to our board of directors by Cypress under the terms of our agreement with Cypress.

**ITEM 13. EXHIBITS AND REPORTS ON FORM 8-K.**

**(a) Exhibits required by Item 601 of Regulation S-B.**

Exhibit #	Description
3.1	Amended and Restated Articles of Incorporation of the company as amended by the Board of Directors effective November 21, 2002 (incorporated by reference to our Quarterly Report on Form 10-QSB for the period ended December 31, 2002).
3.2	By-laws of the company as amended by the Board of Directors, May 31, 2002 (incorporated by reference to our Annual Report on Form 10-KSB for the year ended March 31, 2002).
4	Form of Common Stock Certificate (incorporated by reference to our Registration Statement on Form S-8 filed July 20, 2001).
10.1	Lease dated October 1, 1998 between the company and Glenborough Properties, L.P. (incorporated by reference to our Quarterly Report on Form 10-QSB for the period ended September 30, 2002).
10.2	First amendment to lease between the company and Glenborough Properties, L.P. dated September 18, 2002 (incorporated by reference to our Quarterly Report on Form 10-QSB for the period ended September 30, 2002).
10.3	Second amendment to lease between the company and Glenborough Properties, L.P. dated December 1, 2003 (incorporated by reference to our Quarterly Report on Form 10-QSB for the period ended December 31, 2003).
*10.4	Employment Agreement between the company and Daniel A. Baker dated January 29, 2001 (incorporated by reference to our Annual Report on Form 10-KSB for the year ended March 31, 2001).
*10.5	NVE Corporation 2001 Employee Stock Purchase Plan Summary (incorporated by reference to our Definitive Proxy Statement on Schedule 14A filed June 1, 2001).
10.6	Agreement between the company and Agilent Technologies, Inc. dated September 27, 2001 (Incorporated by reference to our Quarterly Report on Form 10-QSB for the period ended September 30, 2001. Confidential treatment has been requested with respect to portions of this exhibit, and such confidential portions have been deleted and separately filed with the Securities and Exchange Commission pursuant to Rule 24b-2 or Rule 406.).
10.7	Amendment dated October 18, 2002 to Agreement between the company and Agilent Technologies, Inc. (incorporated by reference to our Quarterly Report on Form 10-QSB for the period ended December 31, 2002).
10.8	Stock Purchase Agreement dated April 12, 2002 with Cypress Semiconductor Corporation (incorporated by reference to our Quarterly Report on Form 10-QSB for the period ended June 30, 2002).
10.9	Cypress Semiconductor Corporation Common Stock Purchase Warrant dated April 12, 2002 (incorporated by reference to our Quarterly Report on Form 10-QSB for the period ended June 30, 2002).
10.10	License Agreement dated April 12, 2002 with Cypress Semiconductor Corporation (incorporated by reference to our Quarterly Report on Form 10-QSB for the period ended June 30, 2002. Confidential treatment has been requested with respect to portions of this exhibit, and such confidential portions have been deleted and separately filed with the Securities and Exchange Commission pursuant to Rule 24b-2 or Rule 406.).
14	Code of Business Conduct and Ethics.
23	Consent of Ernst & Young LLP (incorporated by reference within this Annual Report on Form 10-KSB).

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- 31.1 Certification by Daniel A. Baker pursuant to Rule 13a-14(a)/15d-14(a).
- 31.2 Certification by Richard L. George pursuant to Rule 13a-14(a)/15d-14(a).
- 32.1 Certification by Daniel A. Baker pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 32.2 Certification by Richard L. George pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

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\*Indicates a management contract or compensatory plan or arrangement.

**(b) Reports on Form 8-K.**

We submitted a Form 8-K on January 20, 2004 including our press release reporting results for the quarter ended December 31, 2003. This information was furnished under Item 12, Results of Operations and Financial Condition.

**ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES.**

The information required by Item 14 is incorporated herein by reference to the Audit Committee Report and related Exhibit B to be included in our Proxy Statement for our 2004 Annual Meeting of Shareholders.

**SIGNATURES**

In accordance with Section 13 or 15(d) of the Exchange Act, the registrant caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

**NVE CORPORATION**  
(Registrant)

/s/ Daniel A. Baker  
by Daniel A. Baker  
President and Chief Executive Officer

Date May 24, 2004

In accordance with the Exchange Act, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<b>Name</b>	<b>Title</b>	<b>Date</b>
/s/ Terrence W. Glarner Terrence W. Glarner	Director and Chairman of the Board	May 24, 2004
/s/ Daniel A. Baker Daniel A. Baker	Director, President & Chief Executive Officer (Principal Executive Officer)	May 24, 2004
/s/ Richard L. George Richard L. George	Treasurer and Chief Financial Officer (Principal Financial and Accounting Officer)	May 24, 2004
/s/ James M. Daughton James M. Daughton	Director and Chief Technical Officer	May 24, 2004
/s/ Robert H. Irish Robert H. Irish	Director	May 24, 2004

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/s/ Jeffrey K. Kaszubinski  
Jeffrey K. Kaszubinski

Director

May 24, 2004

**REPORT OF INDEPENDENT AUDITORS**

Board of Directors

NVE Corporation

We have audited the accompanying balance sheet of NVE Corporation as of March 31, 2004 and the related statements of income, shareholders equity and cash flows for the years ended March 31, 2004 and 2003. These financial statements are the responsibility of the company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of NVE Corporation at March 31, 2004 and the results of its operations and its cash flows for the years ended March 31, 2004 and 2003 in conformity with accounting principles generally accepted in the United States.

Ernst & Young LLP

Minneapolis, Minnesota

April 23, 2004

**CONSENT OF INDEPENDENT AUDITORS**



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We consent to the incorporation by reference in the Registration Statement (Form S-3) of NVE Corporation and the related Prospectus and in the Registration Statement (Form S-8) pertaining to the NVE Corporation 2000 Stock Option Plan (as amended by the shareholders on July 19, 2001) and the NVE Corporation 2001 Employee Stock Purchase Plan of our report dated April 23, 2004, with respect to the financial statements of NVE Corporation included in its Annual Report (Form 10-KSB) for the year ended March 31, 2004.

Ernst & Young LLP

Minneapolis, Minnesota

May 24, 2004

**NVE CORPORATION**

**FORM 10-KSB**

**FOR THE FISCAL YEAR ENDED MARCH 31, 2004**

**INDEX TO FINANCIAL STATEMENTS**

BALANCE SHEET  
STATEMENTS OF INCOME  
STATEMENT OF SHAREHOLDERS' EQUITY  
STATEMENTS OF CASH FLOWS  
NOTES TO FINANCIAL STATEMENTS

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## NVE CORPORATION

## BALANCE SHEET

MARCH 31, 2004

ASSETS	
Current assets:	
Cash and cash equivalents	\$ 1,055,796
Investment securities	6,488,847
Accounts receivable, net of allowance for uncollectible accounts of \$15,000	1,739,479
Inventories	1,149,854
Deferred tax asset	250,000
Prepaid expenses and other assets	296,537
Total current assets	10,980,513
Fixed assets:	
Machinery and equipment	3,351,676
Leasehold improvements	365,187
	3,716,863
Less accumulated depreciation	2,277,649
Net fixed assets	1,439,214
Total assets	\$ 12,419,727
LIABILITIES AND SHAREHOLDERS' EQUITY	
Current liabilities:	
Accounts payable	\$ 327,281
Accrued payroll and other	711,835
Deferred revenue	424,176
Capital lease obligations	122,480
Total current liabilities	1,585,772
Capital lease obligations, less current portion	100,711
Total liabilities	1,686,483
Shareholders' equity:	
Common stock	44,889
Additional paid-in capital	13,297,753
Accumulated other comprehensive income	90,370
Accumulated deficit	(2,699,768)
Total shareholders' equity	10,733,244
Total liabilities and shareholders' equity	\$ 12,419,727

SEE ACCOMPANYING NOTES.

**NVE CORPORATION**  
**STATEMENTS OF INCOME**  
**YEARS ENDED MARCH 31, 2004 AND 2003**

	Year Ended March 31	
	2004	2003
Revenue		
Contract research and development	\$ 6,617,311	\$ 6,552,730
Product sales	5,393,540	2,503,096
License revenues		391,664
Total revenue	12,010,851	9,447,490
Cost of sales	7,444,906	5,911,380
Gross profit	4,565,945	3,536,110
Expenses		
Research and development	1,103,062	1,308,129
Selling, general & administrative	1,831,542	1,837,549
Total expenses	2,934,604	3,145,678
Income from operations	1,631,341	390,432
Interest income	189,270	210,823
Interest expense	(25,996)	(40,570)
Other income	80,083	86,165
Income from operations before income taxes	1,874,698	646,850
Income tax benefit	233,022	
Net income	\$ 2,107,720	\$ 646,850
Net income per share-basic	\$ 0.49	\$ 0.16
Net income per share-diluted	\$ 0.45	\$ 0.15
Weighted average shares outstanding:		
Basic	4,296,870	4,131,463
Diluted	4,726,759	4,324,493

SEE ACCOMPANYING NOTES.

**NVE CORPORATION**  
**STATEMENT OF SHAREHOLDERS EQUITY**  
**YEARS ENDED MARCH 31, 2004 AND 2003**

	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Compre- hensive Income	Accumulated Deficit	Total
Balance, March 31, 2002	3,454,032	\$ 34,540	\$ 5,896,606		\$ (5,454,338)	\$ 476,808
Exercise of stock options and warrants	24,980	250	12,697			12,947
Shares issued pursuant to employee stock purchase plan	8,917	89	54,680			54,769
Sale of common stock	686,849	6,869	6,206,850			6,213,719
Comprehensive income:						
Unrealized gain on investment securities				73,221		73,221
Net income					646,850	646,850
Total comprehensive income						720,071
Balance, March 31, 2003	4,174,778	41,748	12,170,833	73,221	(4,807,488)	7,478,314
Exercise of stock options and warrants	301,551	3,016	1,035,188			1,038,204
Shares issued pursuant to employee stock purchase plan	12,566	125	91,732			91,857
Comprehensive income:						
Unrealized gain on investment securities				17,149		17,149
Net income					2,107,720	2,107,720
Total comprehensive income						2,124,869
Balance, March 31, 2004	4,488,895	\$ 44,889	\$ 13,297,753	90,370	\$ (2,699,768)	\$ 10,733,244

SEE ACCOMPANYING NOTES.

**NVE CORPORATION**  
**STATEMENTS OF CASH FLOWS**  
**YEARS ENDED MARCH 31, 2004 AND 2003**

	Year Ended March 31	
	2004	2003
<b>OPERATING ACTIVITIES</b>		
Net income	\$ 2,107,720	\$ 646,850
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	524,733	511,049
Deferred tax benefit	(250,000)	
Changes in operating assets and liabilities:		
Accounts receivable	(711,189)	232,883
Inventories	(309,078)	(328,561)
Prepaid expenses and other	(126,217)	(111,115)
Accounts payable and accrued expenses	102,703	120,931
Deferred revenue	(465,451)	(675,680)
Net cash provided by operating activities	873,221	396,357
<b>INVESTING ACTIVITIES</b>		
Purchases of fixed assets	(773,966)	(422,547)
Purchases of investment securities	(615,081)	(5,836,274)
Net cash used in investing activities	(1,389,047)	(6,258,821)
<b>FINANCING ACTIVITIES</b>		
Net proceeds from sale of common stock	1,130,061	6,281,435
Repayment of note payable and capital lease obligations	(154,207)	(360,461)
Net cash provided by financing activities	975,854	5,920,974
Increase in cash and cash equivalents	460,028	58,510
Cash and cash equivalents at beginning of year	595,768	537,258
Cash and cash equivalents at end of year	\$ 1,055,796	\$ 595,768

SEE ACCOMPANYING NOTES.

**NVE CORPORATION**

**NOTES TO FINANCIAL STATEMENTS**

**1. DESCRIPTION OF BUSINESS**

We develop and sell devices using spintronics, a technology we helped pioneer, which utilizes electron spin rather than electron charge to acquire, store, and transmit information.

**2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**Cash and Cash Equivalents**

We consider all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents.

**Investments**

We classify and account for debt and equity securities in accordance with Statement of Financial Accounting Standards (SFAS) No. 115, *Accounting for Certain Investments in Debt and Equity Securities*. Our entire portfolio consists of government-backed and corporate bonds and is classified as available for sale; thus, securities are recorded at fair market value and any associated unrealized gain or loss, net of tax, is included as a separate component of shareholders' equity, Accumulated other comprehensive income.

**Inventories**

Inventories are stated at lower of cost or market determined on a first-in, first-out method.

**Fixed Assets**

Fixed assets are stated at cost. Depreciation of machinery and equipment, and furniture and fixtures is recorded over the estimated useful lives of the assets, generally five years, using the straight-line method. Amortization of leasehold improvements is recorded using the straight-line method over the lesser of the lease term or useful life of five years. We record losses on long-lived assets used in operations when indicators of impairment are present and the undiscounted cash flows estimated to be generated by those assets are less than the assets' carrying amount.

**Revenue Recognition**

Revenue from product sales is recognized when title transfers, generally upon shipment. Revenue from licensing and technology development programs, which is nonrefundable and for which no significant future obligations exist, is recognized when the license is signed. Revenue from licensing and technology development programs, which is refundable, recoupable against future royalties, or for which future obligations exist, is recognized when we have completed our obligations under the terms of the agreements. Revenue from royalties is recognized upon the

shipment of product from our technology license partners to direct customers. Certain research and development activities are conducted for third parties and such revenue is recognized as the services are performed. During 2004 one customer generated 18% of total revenue.

### Stock-Based Compensation

We have adopted the disclosure-only provisions of SFAS Nos. 123 and 148, *Accounting for Stock-Based Compensation*, but apply Accounting Principles Board (APB) Opinion No. 25, *Accounting for Stock Issued to Employees*, and related interpretations in accounting for our plans. Under APB Opinion No. 25, when the exercise price of employee stock options equals or exceeds the market price of the underlying stock on the date of grant, no compensation expense is recognized.

Pro forma information regarding net income and income per share is required by SFAS Nos. 123 and 148, and has been determined as if we had accounted for our employee stock options under the fair value method. The fair value for these options was estimated at the date of grant using the Black-Scholes option pricing model with the following weighted average assumptions: risk-free interest rate of 3.1% for fiscal 2004 and 2.7% for fiscal 2003, expected volatility of 99% for fiscal 2004 and 55% for fiscal 2003, a weighted average expected life of the options of one to five years, and no dividend yield.

Option valuation models were developed for use in estimating the fair value of traded options, which have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions. Because our employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models do not necessarily provide a reliable single measure of the fair value of our employee stock options.

The pro forma information is as follows:

	Year Ended March 31	
	2004	2003
Net income applicable to common shares:		
As reported	\$ 2,107,720	\$ 646,850
Pro forma adjustment for stock options	(430,921)	(658,838)
Pro forma net income (loss)	\$ 1,676,799	\$ (11,988)
Earnings per share:		
Basic - as reported	\$ 0.49	\$ 0.16
Basic - pro forma	0.39	0.00
Diluted - as reported	0.45	0.15
Diluted - pro forma	0.35	0.00



**Income Taxes**

We account for income taxes using the liability method. Deferred income taxes are provided for temporary differences between the financial reporting and tax bases of assets and liabilities. We provide valuation allowances against deferred tax assets when it is determined that it is more likely than not that we will not be able to utilize the deferred tax assets.

**Research and Development**

Research and development costs are expensed as incurred. Customer sponsored research and development costs included in cost of sales amounted to \$5,279,803 and \$4,580,652 during fiscal 2004 and 2003.

**Net Income per Common Share**

We calculate our net income per share pursuant to SFAS No. 128, *Earnings per Share*. Basic earnings per share is computed based upon the weighted average number of common shares issued and outstanding during each year. Diluted net income per share amounts assume conversion, exercise or issuance of all potential common stock instruments (stock options and warrants). Stock options were not included in the computation of diluted earnings per share per share if the exercise prices of the options were greater than the market price of the common stock. The following table reflects the components of common shares outstanding in accordance with SFAS No. 128:

	Year Ended March 31	
	2004	2003
Weighted average common shares outstanding - basic	4,296,870	4,131,463
Effect of dilutive securities:		
Stock options	148,434	189,783
Stock warrants	281,455	3,247
Shares used in computing net income per common share - diluted	4,726,759	4,324,493

**Use of Estimates**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires us to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

We maintain an allowance 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 reduce the stated value of our inventory for excess quantities or obsolescence in an amount equal to the difference between the cost of inventory and the estimated market value based upon assumptions about future demand and market conditions. Additional reductions in stated value may be required if actual future demand or market conditions are less favorable than we projected.

**Fair Value of Financial Instruments**

Our financial instruments consist of cash and cash equivalents, investment securities, short-term trade receivables, and accounts payable. The carrying values of our financial instruments approximate fair value due to their short-term nature.

**3. INVENTORIES**

Inventories consist of the following:

	<b>March 31 2004</b>	
Raw materials	\$	421,074
Work-in-progress		519,675
Finished goods		449,105
		1,389,854
Less obsolescence reserve		(240,000)
	\$	1,149,854

**4. INCOME TAXES**

The provision for income tax (benefit) expense for the years ended March 31 consisted of the following:

	<b>Year Ended March 31</b>		
	<b>2004</b>		<b>2003</b>
<b>Current taxes:</b>			
Federal	\$	13,500	\$
State		3,478	
<b>Deferred taxes:</b>			
Federal		(250,000)	
State			
	\$	(233,022)	\$

A reconciliation of income tax expense provided at the federal statutory rate (34%) to income tax expense for the years ended March 31 consisted of the following:

	<b>Year Ended March 31</b>			
	<b>2004</b>		<b>2004</b>	<b>2003</b>
Tax expense at U.S. statutory rate	\$	637,300	\$	219,929
State income taxes, net of Federal benefit		49,685		16,171
Other		19,993		
Benefit of NOL carryforward		(690,000)		(236,100)
Change in valuation allowance		(250,000)		
	\$	(233,022)	\$	

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of our deferred tax assets and liabilities are as follows:



	<b>March 31</b>
	<b>2004</b>
Deferred tax assets:	
Deferred revenue	\$ 144,250
Vacation accrual	85,350
Inventory reserve	81,600
Net operating loss carryforwards	275,000
Tax credits and capital loss carryforward	1,341,800
Other	40,000
	1,968,000
Valuation allowance	(1,718,000)
	\$ 250,000

A valuation allowance of \$2,658,000 as of March 31, 2003 was established for deferred tax assets. During fiscal 2004, \$690,000 of the valuation allowance was reversed due to the utilization of NOL carryforward, and \$250,000 of the remaining valuation allowance was reversed due to our assessment that it is more likely than not that we will earn sufficient operating income to realize \$250,000 of the remaining deferred tax assets. We have provided a valuation allowance of \$1,718,000 as of March 31, 2004 because we do not believe that it is more likely than not that we will utilize the remaining deferred tax assets before they expire. Regardless of our expectations, there can be no assurance that we will generate any specific level of continuing earnings.

As of March 31, 2004, we have available for income tax purposes approximately \$800,000 in federal net operating loss carryforwards which may be used to offset future taxable income. These loss carryforwards begin to expire in fiscal year 2018. Should we undergo an ownership change as defined in Section 382 of the Internal Revenue Code, our net operating loss carryforwards generated prior to the ownership change will be subject to an annual limitation that could reduce or defer the utilization of these losses.

We have a \$3,082,000 capital loss carryforward amount which can be used to offset future capital gains and other tax credits totaling \$291,800 which can be used to offset future taxable income.

Cash payments for income taxes during fiscal 2004 and 2003 amounted to \$16,978 and \$0.

## 5. LEASES

We lease our facility under an operating lease expiring December 31, 2008. We also pay operating expenses including maintenance, utilities, real estate taxes, and insurance. We also lease several pieces of equipment under operating leases. Terms of the leases range from 36 to 60 months through June 2006, with payments due the first of each month. Total rent expense for operating leases, including building and equipment, was \$275,203 and \$389,003 for fiscal 2004 and fiscal 2003.

We have a lease payable to a leasing company totaling \$60,593 at March 31, 2004. The lease has an effective annual rate of 8.48% with monthly payments of \$8,894 through October 2004. The lease is for production equipment. We have another lease payable to a leasing company totaling \$162,598 at March 31, 2004. The lease has an effective annual rate of 8.96% with monthly payments of \$6,123 through June 2006 and a payoff amount of \$15,000 due June 2006. The lease is for production equipment. The cost and accumulated amortization at March 31, 2004 for assets reported under capital lease obligations amounted to \$634,865 and \$411,530.

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Our future lease commitments under operating and capital leases are summarized as follows:

Year Ending March 31	Operating Lease Future Minimum Payments	Capital Lease Obligations
2005	\$ 194,271	\$ 135,736
2006	203,883	73,481
2007	206,533	33,870
2008	210,140	
2009	160,152	
Total payments	\$ 974,979	243,087
Less interest portion		19,896
		223,191
Less current portion		122,480
		\$ 100,711

**6. STOCK OPTIONS AND WARRANTS**

Our 2000 Stock Option Plan, as amended by our shareholders in 2001, provides for issuance to employees, directors, and certain service providers of incentive stock options and nonstatutory stock options. Generally, the options may be exercised at any time prior to expiration,

	Shares Reserved	Options Outstanding	Weighted Average Exercise Price per Share
Balance at March 31, 2002	449,030	499,550	\$ 3.25
Granted	(90,000)	90,000	9.53
Exercised		(24,980)	0.52
Terminated	3,000	(3,000)	10.01
Balance at March 31, 2003	362,030	561,570	4.36
Granted	(14,500)	14,500	19.23
Exercised		(300,640)	3.55
Terminated	14,000	(14,000)	6.68
Balance at March 31, 2004	361,530	261,430	\$ 5.99

subject to vesting based on terms of employment. The period ranges from immediate vesting to vesting over a five-year period. The options have exercisable lives ranging from one year to ten years from the date of grant. Exercise prices are not less than fair market value as determined by our Board of Directors at the date the options are granted. A summary of our incentive stock options is shown in the table at the bottom of the previous page.

As of March 31, 2004 and 2003 there were exercisable options outstanding covering 166,135 and 372,675 shares, respectively, at a weighted average exercise price of \$5.08 and \$3.45 per share. The remaining weighted average exercisable life was 4.7 and 3.3 years at March 31, 2004 and 2003.

The fair market value of grants issued was \$12.75 and \$4.15 in fiscal 2004 and 2003.

## **7. COMMON STOCK**

Our authorized stock is stated as six million shares of common stock, \$0.01 par value and ten million shares of all types. Our Board of Directors may designate any series and fix any relative rights and preferences to authorized but undesignated stock.

## **8. LICENSE AGREEMENTS**

We have entered into two separate license agreements which provided for advanced payments, plus royalties of 1% based upon revenue generated by the respective parties. To date, no royalties have been recognized under either agreement.

## **9. TECHNOLOGY EXCHANGE AGREEMENT**

In April 2002 we closed a technology exchange agreement accompanied by an investment by Cypress Semiconductor Corporation. Cypress purchased 686,849 shares of our common stock for \$6.228 million. Cypress also received a warrant for the purchase of up to an additional 400,000 shares of common stock for \$15 per share for a term of three years.

## **10. ROYALTIES**

We have licensed rights to another organization's GMR-related patents in exchange for payment of royalties of 1.5% of the sales of certain of our products. Payments under this license agreement have not been material.

## **11. EMPLOYEE BENEFITS**

All employees are eligible to participate in our 401(k) savings plan the first quarter after reaching age 21. Employees may contribute up to 100% of their gross wages up to the Internal Revenue Service maximum. We make matching contributions equal to 100% of the first 2% of elective salary deferral contributions made by eligible participants. We made matching contributions of \$88,452 and \$79,521 for fiscal 2004 and fiscal 2003.

Our 2001 Employee Stock Purchase Plan was approved by shareholders in July 2001 and implemented October 1, 2001. The plan allows us to issue up to 200,000 shares of common stock. With certain exceptions, all of our employees who have been employed by us for at least one year and who are employed at least 20 hours per week and at least five months per year, including officers and directors who are employees, are eligible to participate. The plan consists of periodic offerings for a period determined by our Board of Directors. Under the plan, an employee may elect to have up to 10% deducted from regular salary to purchase shares. The price at which the employee's shares are purchased is the lower of (a) 85% of the closing price of the common stock on the day that the offering commences or (b) 85% of the closing price of the common stock on the day that the offering terminates. We issued 12,566 and 8,917 shares of common stock under the plan for fiscal 2004 and fiscal 2003.

## **12. LEGAL**

We are subject to various litigation matters from time to time in the normal course of our business. We currently believe that the ultimate outcome of these proceedings will not have a material adverse effect on our financial position or results of operations. However, because of the nature and inherent uncertainties of litigation, should the outcome of these actions be unfavorable, our business, financial position, and results of operations could be materially and adversely affected.