NVE CORP /NEW/
Form 10KSB
May 26, 2005

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-KSB

(Mark One)

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

For the fiscal year ended March 31, 2005

o **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	**41-1424202**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
11409 Valley View Road, Eden Prairie, Minnesota	**55344**
(Address of principal executive offices)	(Zip Code)

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

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

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 ý No o

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. o

Issuer s revenues for the most recent fiscal year: **$11,615,570**

The aggregate market value of the voting stock (Common Stock) held by non-affiliates of the issuer as of May 23, 2005, was approximately $73 million based on the last sale price reported for such date on The NASDAQ SmallCap Market.

The number of shares of the issuer s Common Stock (par value $0.01) outstanding as of May 23, 2005 was 4,569,784.

DOCUMENTS INCORPORATED BY REFERENCE

Parts of our Proxy Statement for our 2005 Annual Meeting of Stockholders are incorporated by reference into Items 10, 11, and 14 hereof.

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

NVE CORPORATION

INDEX TO FORM 10-KSB

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 and those discussed in Exhibit 99 to this Annual Report on Form 10-KSB.

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 magnetoresistive 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. Since our founding, we have been awarded more than $50 million in government research contracts, including more than 30 MRAM development contracts. These contracts have helped us build our intellectual property portfolio.

We have licensed our MRAM intellectual property to others, including Cypress Semiconductor Corporation, Honeywell International, and Motorola, Inc. We manufacture spintronic sensors and couplers, which are sold through a worldwide network of distributors. We also have an agreement with Agilent Technologies, Inc. to distribute our couplers under their brand.

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, 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 are spin-dependent tunnel junctions, which are also known as SDT junctions, Magnetic Tunnel Junctions (MTJs), or Tunneling Magnetic Junctions (TMJs). SDT junctions use tunnel barriers that are 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.

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 optical 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 single 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.

Near-term potential 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 small changes in magnetic fields. They can be used to detect the position or speed of robotics and mechanisms, or to acquire information in medical devices or automobiles. As factories become more automated, there is a need for more precise position sensing. We believe our spintronic sensors are smaller, more precise, and more reliable than existing devices. We believe this allows more efficient production of products such as automobiles. We believe that better sensors will also enable smaller, more reliable medical devices and safer automobiles.

Like sensors, couplers are 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 by pursuing additional MRAM license agreements, expanding commercial product sales, and building intellectual property.

Monetize MRAM Intellectual Property Through Licensing

Because of the large capital investment required to make large-scale memories, our strategy is to monetize our MRAM intellectual property by licensing others to make devices using our technology.

Subject to certain terms and conditions, we could receive royalties if Motorola sells MRAM products under its license agreement with us. Motorola has said that it may have such devices made by Freescale Semiconductor, Inc., its former semiconductor division, and Freescale has said that pilot production could begin in 2005.

Rather than royalties, our agreement with Cypress gives us rights to Cypress production designs and intellectual property, as well as rights to use Cypress factories to manufacture MRAMs for us. Cypress has notified us that it has discontinued MRAM development, so we are unlikely to commercialize the Cypress designs.

Pursue Additional MRAM License Agreements

We will pursue new license agreements, and we expect licensing activity to accelerate once MRAM sales begin. There can be no assurance as to when or if we will consummate additional agreements, however.

Expand 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 campaigns targeted primarily at factory/industrial controls and instrumentation markets. Our campaigns highlight the advantages of NVE devices compared to conventional devices. Examples include our World s Smallest and World s Fastest coupler campaigns.

Fund Basic Technology Development With Research and Development Contracts

Government research and development contracts were the source of some of our underlying patents and product developments. Such contracts account for a large but declining portion of our revenue. We are focusing our contract research in three strategic areas:

1. Ultra-high density MRAM;

2. Spin-dependent tunneling (SDT) junctions; and

3. Biomedical nanosensors for laboratories-on-chips

The most strategic of these three research areas is ultra-high density MRAM, which includes programs in magnetothermal MRAM, Vertical MRAM, and radiation-hardened MRAM.

Our Products and Markets

We operate in one segment. In addition to licensing MRAM technology, we manufacture and sell two product lines: sensors to acquire information and data couplers to 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. We sell standard, or catalog sensors, and custom sensors designed to meet customers exact requirements.

Our sensors are quite small, very sensitive to magnetic fields, precise, and reliable. These advantages have allowed us to establish a presence in industrial control applications such as robotics. We are building a medical device market, and we have identified miniature medical devices and automobiles as future growth markets.

Coupler Products and Markets

Our spintronic couplers add an IsoLoop 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. Couplers are also known as isolators because they electrically isolate the coupled systems, Our 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, telecommunications, and automotive applications possible 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 ideal 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.

Advanced MRAM designs we are developing include Vertical MRAM (VMRAM), magnetothermal MRAM, and spin-momentum MRAM. We believe each of these three design approaches have the potential to increase the scalability of MRAM.

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 and other consumer electronics, where it could replace three types of memory and enable embedded designs such as systems on chips.

Long term, MRAM could address the market for ubiquitous high-density memory, where it could offer nonvolatility and higher speed than DRAM or hard-disks, enabling a new generation of small, fast, instant-on, computers.

Product Manufacturing

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

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

Product Distribution

We rely primarily on distributors who stock and sell our products throughout the world, including Digi-Key Corporation, one of the largest electronic component distributors in the U.S. We also utilize independent manufacturers representatives to facilitate product sales in certain areas, but we plan to rely less on such representatives as distribution sales grow.

Our agreements with distributors and with sales representatives are generally renewed annually.

Agilent, one of the world s leading suppliers of solid-state couplers, distributes private-labeled versions of our couplers under an agreement that expires in 2008. Agilent has its own network of distributors.

New Product Status

New Standard Products

In the past year we have announced and begun sampling several new standard or catalog products for factory and industrial markets including:

- rotational speed sensors

low-power couplers

five-channel couplers

monolithic couplers

new types of isolated RS-485 network transceivers

New Custom Products

In our fiscal year ended March 31, 2005 (fiscal 2005), we designed and began selling ultra-miniature spintronic sensor integrated circuits to Starkey Laboratories Inc. for hearing aids.

New MRAM Products

Freescale has said it expects to begin MRAM pilot production in 2005. There can be no assurance, however, that we will be able to negotiate a license agreement with Freescale or receive royalties from the sale of devices under our agreements with Motorola.

Our Competition

Sensor Competition

Sensor competitors include Allegro Microsystems, Inc. Honeywell, Royal Philips Electronics, and Sensitec GmbH. Allegro makes inexpensive silicon Hall-effect sensors, but we believe Hall-effect sensors are not as sensitive or precise as our products. 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. Sensitec has begun to sell GMR sensors, but we believe we have a broader product line and certain product advantages.

Coupler Competition

The two main competing digital couplers are optical couplers and inductive couplers (transformers). Optical 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 is a leading producer of high-speed optical couplers. Other top optical coupler suppliers are Vishay Intertechnology, 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 optical couplers. Unlike our IsoLoop couplers, inductive couplers require special encoding to transmit logic signals. Furthermore, IsoLoop couplers require much less board space than most optical or inductive couplers.

Analog Devices, Inc. (ADI) markets microelectronic mechanical system (MEMS) inductive couplers. While these devices offer some advantages over our couplers and are smaller than other inductive couplers, we believe our devices have higher channel density per area, are faster, and produce less signal distortion than competing ADI devices.

We make several network signal couplers that combine spintronics coupling with network protocol functions such as RS-485, in a single package. Our competitors in this area include ADI, Linear Technology Inc. (LTI), and Maxim Integrated Products, Inc. Based on a comparison of published specifications, we believe our devices are much faster than the LTI and Maxim network signal couplers. We believe we offer a wider input voltage interface and a more complete line of network protocols than ADI s network signal couplers.

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, Renesas Technology Corporation, Samsung Electronics Ltd., and STMicroelectronics NV. Current and potential FRAM manufacturers include Fujitsu Limited, Infineon Technologies AG, Ramtron International Corporation, Samsung Electronics Ltd., STMicroelectronics NV, and Texas Instruments Inc.

Silicon-oxide-nitride-oxide-silicon (SONOS) memory has been suggested as a possible improvement over conventional floating gate flash memories. Simtek Corporation, Cypress, and possibly Freescale are among companies believed to be developing SONOS memories.

Battery-backed-up SRAM manufacturers include Maxim. We believe that MRAM has the potential of being simpler, lower cost, and more reliable than battery-backed-up SRAM.

Emerging technologies competing with MRAM include carbon nanotubes, phase-change memory (PCM; also known as ovonic unified memories or OUM), polymer memory, and polymeric ferroelectric random access memory (PFRAM). We believe that MRAM has advantages over these technologies and that it is closer to commercialization and more scalable. Companies developing carbon nanotube memory include Nantero, Inc. Intel. Companies developing PCM include Elpida Memory, Inc., IBM Corporation, Infineon, Intel, Macronix International Co., Ltd., Ovonyx, Inc., Philips, and STMicroelectronics. Companies developing polymer memory include Thin Film Electronics ASA and Coatue. Intel may be developing PFRAM.

Other companies that may be attempting to develop MRAM intellectual property with the intention of licensing to others include Grandis, Inc., Spintec (Grenoble, France), and Spintron (Marseille, France).

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

Principal Suppliers

Our principal suppliers include manufacturers of semiconductor wafers that 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, St. Jude Medical, Inc., the U.S. Government, and certain distributors including Digi-Key Corporation. 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 revenue and profitability.

Intellectual Property

Patents

We were granted four U.S. patents in fiscal 2005, and as of March 31, 2005 we had 33 U.S. patents issued. Our technology is protected by a total of 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.

Certain of our patents cover MRAM cells with transistor selection for data retrieval, which we believe may be necessary for successful high-density, high-performance MRAMs. We know of no practical alternative design being pursued by potential MRAM suppliers that could be sold in commercial quantities in the foreseeable future.

We believe our 6,275,411 and 6,349,053 U.S. patents, both entitled Spin Dependent Tunneling Memory, are particularly important. Both patents cover MRAMs using arrays of Spin Dependent 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.

We have patents on advanced MRAM designs that we believe are important including patents that relate to magnetothermal MRAM, spin-momentum MRAM, and synthetic antiferromagnetic storage.

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, Honeywell, Union Semiconductor Technology Corporation, and Motorola. 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.

Motorola License

Motorola has a non-exclusive, non-transferable, and non-assignable license to our MRAM intellectual property. Motorola has since separated Freescale. Motorola and Freescale asked us to consent to Motorola s assignment of the Patent License Option Agreement to Freescale. We have declined to provide such consent without additional consideration.

Motorola has indicated to us that it may attempt to have MRAMs manufactured by Freescale for Motorola under the so-called have made rights in our agreement with Motorola. We believe Motorola will likely have terminated this agreement and so relinquish its have-made rights at the end of calendar 2005, as a result of having transferred its MRAM manufacturing capability to Freescale. We hope to, before then, negotiate a new agreement with Freescale, or an assignment of the Motorola agreement to Freescale, though only with amendments thereto, but there can be no

assurances that we will complete such an agreement or assignment.

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 have rights to all of Cypress MRAM intellectual property existing now and in the future, including MRAM designs and mask works. Cypress informed us in April 2005 that it has discontinued its efforts to develop MRAM, so we are unlikely to commercialize the Cypress designs.

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 $5,860,200 and $6,382,865 in the years ended March 31, 2005 and 2004 on research and development. All but $841,731 and $737,447 or the expenditures were funded by customers through research and development contracts. Most of our research and development contracts are with the U.S. government, and most of our U.S. government contracts are with the Department of Defense.

Our near-term research programs include sensors and couplers. Long-term research programs are focused in three strategic areas: ultra-high density MRAM; spin-dependent tunneling (SDT) junctions; and biomagnetic sensors.

We invested in the development of new sensors and couplers, including a new family of monolithic couplers called the IL600-series and new types of isolated RS-485 network transceivers. We also invested in designs to improve the manufacturing yield of our couplers. We believe higher manufacturing yields will reduce our costs, allowing us to improve our margins or reduce our selling prices.

The goal of our SDT junction research is to optimize high-sensitivity junctions. SDT junctions are key spintronics building blocks used in MRAM, ultra-sensitive sensors, and biomagnetic sensors.

Our biomagnetic sensor research covers the use of nanoscale magnetics at the cellular molecular level. Applications include ultra-miniature biological warfare agent detectors, real-time DNA testers, and laboratory-on-a-chip diagnostic systems.

Government 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.

With certain exceptions, 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 awards. While we believe we currently meet the 51% ownership criterion, changes in our capital structure or purchases by entities in the open market or by other means could cause us to become ineligible.

Much of our intellectual property has been developed with U.S. government support. In accordance with federal legislation, companies normally may retain the principal worldwide patent rights to any invention developed with U.S. government support.

Our Employees

As of March 31, 2005, we had 64 employees, 60 of whom were full-time. Of our full-time employees, there were six general and administrative employees, six sales and marketing employees, 23 technicians, and 25 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.

Environmental Matters

We are subject to environmental laws and regulations, particularly with respect to industrial waste and emissions. Compliance with these laws and regulations has not had a material impact on our capital expenditures, earnings, or competitive position.

Website Access to Our SEC Filings

All reports we file with the Securities and Exchange Commission (SEC), 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 Investors section of our website at www.nve.com. These filings are also accessible on the SEC s website at www.sec.gov.

Risk Factors

We discuss certain risk factors that may affect our business and financial results in Exhibit 99 to this Annual Report on Form 10-KSB.

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.

In fiscal 2005 we expanded our clean-room production area by converting office areas. We financed the expansion through operating profits and a rent credit for that purpose provided by our building s owner. We believe the expansion will allow us to meet our near-term facility needs, and we have no additional significant near-term expansion plans.

We hold 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 our shareholders during the quarter ended March 31, 2005.

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. The following data set forth, for the quarters indicated, a summary of the high and low sales price of our common stock as reported on the NASDAQ SmallCap Market without retail mark-up, markdown or commissions, and may not represent actual transactions.

Holders and Dividends

As of March 31, 2005 we had approximately 140 shareholders of record and approximately 10,870 total shareholders. 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.

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

You should read this MD&A together with our financial statements and the notes to those financial statements included in this Report. In addition to historical information, the following discussion contains forward-looking information that involves risks and uncertainties. Our actual future results could differ materially from those presently anticipated due to a variety of factors, including those discussed in Exhibit 99 to this Annual Report on Form 10-KSB.

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 spintronic magnetoresistive random access memory technology, commonly referred to as MRAM, which we believe has the potential to revolutionize electronic memory.

Our strategy is to expand product revenue while relying on U.S. 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.

Application of Critical Accounting Policies and Estimates

In accordance with SEC guidance, those material accounting policies that we believe are the most critical to an investor s understanding of our financial results and condition and require complex management judgment are discussed below.

Product Warranty Estimation

We maintain a reserve for warranty claims based on the trend in the historical ratio of claims to sales, releases of new products and other factors. The warranty period for our products is generally one year. Although we believe the likelihood to be relatively low, claims experience could be materially different from actual results because of the introduction of new products, manufacturing changes that could impact product quality, or as yet unrecognized defects in products sold. As of March 31, 2005 and 2004 estimated warranty claims are not material to the financial statements.

Inventory Reserves Estimation

We maintain reserves for potentially excess, obsolete, and slow-moving inventory. The amounts of these reserves are based upon expected product lives, competitive conditions, industry conditions, and forecasted sales demand. Our results could be materially different if demand for our products decreased because of economic or competitive conditions, length of the industry downturn, or if products become obsolete because of technical

advancements by us or in the industry. Alternatively, if we are able to sell previously reserved inventory, we reverse a portion of the reserve. Changes in inventory reserves are recorded as a component of cost of sales. At March 31, 2005 our obsolesce reserve was $180,000, compared to $240,000 at March 31, 2004. The decrease was due to sales of parts that were previously included in the reserve calculation.

Allowance for Doubtful Accounts Estimation

We must make estimates of the uncollectibility of our accounts receivable. The most significant risk is the risk of sudden unexpected deterioration in financial condition of a significant customer that is not considered in the allowance. We specifically analyze accounts receivable, historical bad debts, and customer credit-worthiness when evaluating the adequacy of the allowance for doubtful accounts. Our results could be materially impacted if the financial condition of a significant customer deteriorated and related accounts receivable are deemed uncollectible. At March 31, 2005 our allowance for doubtful accounts was $15,000, unchanged from March 31, 2004. We expect our allowance for doubtful accounts to remain a relatively small percentage of our accounts receivable because much of our receivables are with U.S. government agencies, which we consider very credit worthy. Most of our product sales are through distributors, which generally assume the credit risk of the end-user customers. Our allowance for doubtful accounts could increase in the future if larger portions of our sales come from end users.

Deferred Tax Asset Estimation

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 2005 we reduced the amount of our valuation allowance based upon our cumulative income over the past three years and our expectation of income in our fiscal year ending March 31, 2006 (fiscal 2006).

We do not expect to pay taxes in the near future because we have stock-based compensation deductions. We expect to begin recognizing tax expenses for reporting purposes in fiscal 2006, however, because under Statement of Financial Accounting Standards (SFAS) No. 109, *Accounting for Income Taxes,* stock-based compensation deductions do not reduce taxes reported for book purposes. As of March 31, 2005, our deferred assets were $3,984,808 with related valuation allowance of $3,228,734. Deferred tax assets include $3,363,179 of stock-based compensation deductions. We expect to use these deferred tax assets starting in the first quarter of fiscal 2006 assuming we are profitable. If and when we use stock-based compensation deductions, we will record provisions for income tax although we will not be paying income tax other than possibly alternative minimum tax. In accordance with SFAS No. 109, stock-based compensation deductions do not reduce taxes reported for book purposes but are credited to additional paid-in capital.

Results From Operations

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

	Year Ended March 31	
	2005	**2004**
Revenue		
Research and development	52.5%	55.1%
Product sales	47.5	44.9
Total revenue	100.0	100.0
Cost of sales	60.4	62.0
Gross profit	39.6	38.0

Total expenses	25.7	22.4
Income tax benefit	(1.2)	(1.9)
Net income	15.1%	17.5%

Research and development revenue decreased 8% in fiscal 2005 to $6,093,320 from $6,617,311 for our fiscal year ended March 31, 2004 (fiscal 2004), due to a shift from government-funded research contracts to company-funded research.

Product sales increased 2% to $5,522,250 in fiscal 2005 compared to $5,393,540 in fiscal 2004. The increase in product sales was despite a decline in sales to St. Jude Medical and an industry-wide inventory glut that we believe negatively impacted our sales in the quarter ended December 31, 2004. The decline in sales to St. Jude Medical was due to St. Jude Medical purchasing parts for inventory in fiscal 2004 as they expanded their use of our components.

Total revenue for fiscal 2005 was $11,615,570, a decrease of 3% from revenue of $12,010,851 in fiscal 2004. The decrease was due to a decrease in research and development revenue partially offset by an increase in product sales.

Gross profit margin increased to 40% for fiscal 2005, compared to 38% for fiscal 2004. The increase was due to a more favorable revenue mix and higher product margins due to lower-cost coupler designs, partially offset by increased costs associated with new products that began production in fiscal 2005.

Research and development expense increased 26% to $1,393,503 for fiscal 2005 compared to $1,103,062 for fiscal 2004. The increase was due to shifting resources from government-funded research contracts to company-funded research. Major company-funded research and development programs included new sensor and coupler products, and designs to improve the manufacturing yields of our existing couplers.

Selling, general, and administrative expenses for fiscal 2005 increased by 2% to $1,867,556 compared to $1,831,542 for fiscal 2004. The increase was due to increased patent and auditing expenses, partially offset by lower personnel expenses.

Interest income, interest expense, plus other income totaled $276,073 in fiscal 2005 compared to $243,357 in fiscal 2004. The increase in interest income was due to higher interest rates. Lower interest expense was due to a reduction in debt.

We recorded pre-tax income of $1,619,850 for fiscal 2005, compared to pre-tax income of $1,874,698 for fiscal 2004. The decrease was primarily due to a decrease in research and development revenue and an increase in research and development expense.

Net income in fiscal 2005 included a net income tax benefit of $138,404, compared to $233,022 for fiscal 2004, from reductions of valuation allowances relating to deferred tax assets.

Net income was $1,758,254 in fiscal 2005 compared to $2,107,720 in fiscal 2004. The decrease in net income was due to a decrease in research and development revenue, an increase in research and development expense, and a smaller income tax benefit.

Liquidity and Capital Resources

Our primary source of working capital for fiscal 2005 and 2004 was product sales and research contracts. At March 31, 2005 we had $7,717,264 in cash and investments. This compares to $7,544,643 in cash and investments at March 31, 2004. The increase in cash and investments was due to income from operations and proceeds from the exercise of incentive stock options, partially offset by investments in property, plant and equipment, increases in inventory and accounts receivable, and a reduction in customer prepayments.

Accounts receivable increased to $2,285,472 at March 31, 2005 from $1,739,479 at March 31, 2004. The increase was due primarily to product shipments weighted toward late in the year after slow product sales in the third quarter. We expect accounts receivable to decrease in the near term as customers pay for parts shipped late in fiscal 2005. Long term, we expect accounts receivable to tend to increase approximately in line with revenue.

Inventory increased to $1,572,759 at March 31, 2005 from $1,149,854 at March 31, 2004. The increase was due primarily to an increase in foundry wafers we purchased either to receive more favorable pricing or to guard against a possible supply shortage. The risk of a foundry wafer supply shortage appears to have since abated. We expect inventory to decrease in the near term, as we expect to reduce our foundry wafer inventories.

A significant portion of our working capital consists of product inventory finished goods and work-in-process. Although we maintain a reserve for inventory obsolescence, the liquidity of such inventory could be negatively affected if demand for our products decreased because of economic or competitive conditions, or become unsalable because of poor quality or low yields, or if products become obsolete because of technical advancements by us or our competitors.

We have less than $35,000 in long-term debt, consisting of the long-term portion of a production equipment lease. We expect to retire this lease in June 2006. While we are not currently planning any additional borrowing, we may have the ability to borrow using certain of our production equipment assets as collateral if necessary.

We currently have no material commitments for capital expenditures. We believe our working capital is adequate for our needs at least through fiscal 2006.

Outlook

In fiscal 2006 we plan to continue our business strategy, including developing new sensor and coupler products and pursuing new MRAM license agreements.

We expect research and development revenue to continue to decline in fiscal 2006 as our emphasis shifts from government-funded to company-funded research, particularly new product development, and we focus more of our contract research in certain strategic areas. Furthermore, available government funding for research and development in our areas of expertise may decline due to government budget constraints.

After a slow quarter ended December 31, 2004, industry conditions appeared to improve in the quarter ended March 31, 2005 as excess inventories in the electronic component distribution channel were burned off. We are therefore cautiously optimistic for product sales in fiscal 2006.

We expect gross profit margins to increase in fiscal 2006 as a result of lower-cost product designs completed in fiscal 2005. Longer term, competitive pressures could force us to decrease our selling prices, which would decrease gross profit margins.

Selling, general and administrative expenses could increase if we negotiate or enforce MRAM license agreements.

We expect research and development expenses to increase in fiscal 2006 as we develop new products and continue to shift from government-funded to company-funded research and development.

Although we anticipate being profitable in fiscal 2006, no assurance can be given that we will be successful in achieving this goal.

We do not expect to pay significant income taxes in fiscal 2006, but we expect to begin recognizing provisions for income taxes at a rate of approximately 34% percent of net income due to our stock-based compensation deductions. Unlike net operating loss carryforwards, stock-based compensation deductions do not reduce taxes reported for book purposes when realized.

We are not currently planning significant capital expenditures for fiscal 2006. We plan to fund any capital expenditures from operating profits, cash and cash equivalents, or from the sale of investments.

Foreign Currency Transactions

We have some limited revenue risks from fluctuations in values of foreign currency due to product sales abroad. Foreign sales are generally made in U.S. 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 U.S. Government on research and development contracts are generally adjustable with inflation.

ITEM 7. FINANCIAL STATEMENTS.

Financial statements and accompanying notes are in this Report beginning on page F-1 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.

As of the end of the period covered by this Report, we conducted an evaluation, under the supervision and with the participation of the principal executive officer and principal financial officer, of our disclosure controls and procedures (as defined in Rules 13a-14(c) and 15d-14(c) under the Securities Exchange Act of 1934 (the Exchange Act)). Based on this evaluation, the principal executive officer and principal financial officer concluded that our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms. There was no change in our internal control over financial reporting during our most recently completed fiscal quarter that has materially affected, or is 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 Board and Committee Meetings Nominating/Corporate Governance Committee Shareholder Nominees to be included in our Proxy Statement for our 2005 Annual Meeting of Shareholders is incorporated herein by reference.

Directors and Executive Officers

Each director is elected annually and serves for a term of one year or until their successor is duly elected and qualified. The section entitled Proposal 1. Election of Board of Directors to be included in our Proxy Statement for our 2005 Annual Meeting of Shareholders sets forth certain information regarding our directors required by Item 9, and is incorporated herein by reference. The following table sets forth certain information regarding our executive officers:

Name and Position	Age
Daniel A. Baker Director, President, and Chief Executive Officer	47
Richard L. George Treasurer and Chief Financial Officer	61
James M. Daughton Director and Chief Technology Officer	68

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 Technology Officer since January 2001. He served as Chairman of the Board and CEO 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.

Audit Committee Financial Experts

Our Board of Directors has determined that Patricia M. Hollister and Terrence W. Glarner qualify as audit committee financial experts as that term is defined under Section 407 of the Sarbanes-Oxley Act of 2002 and the rules promulgated by the SEC in furtherance of Section 407. Furthermore, Ms. Hollister, Mr. Glarner, and Robert H. Irish are independent, as that term is defined 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 incorporated by reference in this Report, and a copy is available from the Investors section of our website (www.nve.com).

We intend to post on our website any amendment to, or waiver from, a provision of our Code of Business Conduct and Ethics that applies to our principal executive officer, principal financial officer, controller, and other employees performing similar functions within four business days following the date of such amendment or waiver.

Section 16(a) Beneficial Ownership Reporting Compliance

The discussion under the section entitled Section 16(a) Beneficial Ownership Reporting Compliance to be included in our Proxy Statement for our 2005 Annual Meeting of Shareholders is incorporated herein by reference.

ITEM 10. EXECUTIVE COMPENSATION.

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 2005 Annual Meeting of Shareholders.

ITEM 11. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS.

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 2005 Annual Meeting of Shareholders.

ITEM 12. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS.

None.

ITEM 13. EXHIBITS.

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 2000 Stock Option Plan as Amended July 19, 2001 by the shareholders (incorporated by reference to our Registration Statement on Form S-8 filed July 20, 2001).
10.6*	NVE Corporation 2001 Employee Stock Purchase Plan Summary (incorporated by reference to our Definitive Proxy Statement on Schedule 14A filed June 1, 2001).
10.7+	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).
10.8	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).
10.9+	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).
10.10*	Amendment No. 1 dated March 28, 2005 to Stock Option Agreement dated May 7, 2004 between the Company and Daniel A. Baker (incorporated by reference to our Current Report on Form 8-K filed March 30, 2005).
10.11*	Amendment No. 1 dated March 28, 2005 to Stock Option Agreement dated August 17, 2004 between the Company and Patricia M. Hollister (incorporated by reference to our Current Report on Form 8-K filed March 30, 2005).
14	Code of Business Conduct and Ethics (incorporated by reference to our Annual Report on Form 10-KSB for the year ended March 31, 2004).
23	Consent of Ernst & Young LLP.
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	Certification by Daniel A. Baker and Richard L. George pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

99 Cautionary statements for purposes of the safe harbor provisions of The Private Securities Litigation Reform Act.

*Indicates a management contract or compensatory plan or arrangement.

+Confidential treatment has been requested with respect to portions of this exhibit, and such confidential portions have been deleted and separately filed with the SEC pursuant to Rule 24b-2 or Rule 406.

Copies of documents filed as exhibits to our Form 10-KSB may be accessed from the Investors section of our website (www.nve.com), or obtained by making a written request to Richard L. George, our Chief Financial Officer.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES.

The information required by Item 14 is incorporated herein by reference to the section entitled Fees Billed to Us by Ernst & Young, LLP During Fiscal 2005 and 2004 and Audit Committee Pre-Approval Policies, to be included in our Proxy Statement for our 2005 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 23, 2005

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.

Name	Title	Date
/s/ Terrence W. Glarner Terrence W. Glarner	Director and Chairman of the Board	May 23, 2005
/s / Daniel A. Baker Daniel A. Baker	Director, President & Chief Executive Officer (Principal Executive Officer)	May 23, 2005
/s/ Richard L. George Richard L. George	Treasurer and Chief Financial Officer	May 23, 2005