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American Superconductor Corporation

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American Superconductor™ Corp /DE/

REVOLUTIONIZING THE WAY THE WORLD USES ELECTRICITY™

To Our Shareholders

During our fiscal year that ended on March 31, 2002, we achieved many important business and technical milestones, including a key motor demonstration, a set of new Navy contracts, an important amendment to our agreement with Pirelli Energy Cables and Systems, dramatic results on a new wire technology and tremendous progress in strengthening our patent portfolio. At the same time, we did not achieve the revenue targets we set for ourselves due to delays in orders for our power electronics-based products from semiconductor manufacturers and transmission grid operators. While several orders seemed imminent earlier in the year, the weakness of the economy, the continued downturn in the semiconductor industry and uncertainty and budget cuts in the transmission grid sector all took their toll on our top line. In response to these challenges, we took actions designed to control costs while continuing to build for the future.

Organized for Success

At the end of our fiscal year, we restructured AMSC in order to reduce our rate of cash burn and to more effectively transition our development-stage businesses from a research orientation to a product and manufacturing focus. We integrated two of the business units, Power Quality and Reliability and Power Electronics, into one business unit called Power Electronic Systems. By integrating our power electronics engineering, product development and sales teams under Power Electronic Systems, we have created a stronger, more focused organization. We also reprioritized our research and development programs in HTS technology and streamlined corporate functions. These restructuring, consolidation and cost-cutting measures resulted in a reduction in our workforce by 99 employees and reduced our annual operating expenses by about $9 million.

We are now organized into three business units: HTS Wire, Electric Motors and Generators and Power Electronic Systems. From now on we will report separate financial results for each of these three businesses, which aligns with how we manage the company.

Breaking Grid Bottlenecks and Increasing Power Reliability

After many years of neglect, the power grid in the U.S. is receiving renewed attention from policymakers at the highest levels. Throughout the 1990s, grid investment declined in an environment of electric industry transition, regulatory reform and uncertainty. Within the past several years, excess transmission capacity has been exhausted and costly bottlenecks in the transmission system have appeared, resulting in a rising incidence of blackouts and dramatic price spikes. The electric industry and policymakers at the state and federal level have actively explored many non-grid options to satisfy power requirements in recent years, such as localized and distributed generation and energy efficiency. While these other strategies can provide a partial contribution to balancing energy requirements, it has become apparent that they are not full substitutes for a reliable, high-capacity transmission network. This realization has led to a renewed focus on the need to upgrade the grid to meet system reliability needs and to accommodate future economic growth, which is highly dependent on the availability of electricity.

The U.S. Department of Energy's National Transmission Grid Study, issued in May 2002, presents the most authoritative and detailed discussion yet of this important national challenge. A wide range of industry and independent sources has also issued reports within the past two years supporting the thesis that significant investment in and modernization of the nation's power grid is imperative.

AMSC and its three business units are well positioned to participate in what we believe will be a significant period of investment in the transmission infrastructure of the U.S. and the rest of the world. Our current and planned products range from high power density HTS wire for power cables, to power electronic solutions for enhancing grid reliability, to rotating machines that improve the effectiveness of existing grid infrastructure.

Active Grid Management—the Power Electronics Way

We are selling commercial power electronic systems designed to increase the reliability and throughput of existing and new power transmission grids and to increase the quality of power for industrial users of power. We believe our proven, leading-edge power electronic solutions are ready to meet the need for highly reliable electric power, and we believe we will see rapid growth in this sector as the economy in the U.S. recovers and as transmission grid operators once again begin to invest in the power transmission grid.

Our power electronics systems, including Dynamic-VAR (D-VAR™), Distributed Superconducting Magnetic Energy Storage (D-SMES), and our PowerModule™ line of power converter products, are also being targeted for use in wind turbines and wind farms, a source of power generation that is expected to continue enjoying annual growth rates of more than 20 percent per year. We recently sold our first D-VAR for a wind farm application and we are addressing requests for quotes for D-VAR and PowerModules for other wind farm applications. One of our PowerModules is being qualified by a wind turbine manufacturer to meet the needs for converting wind-generated power to grid-acceptable power. We believe other products we are developing, including HTS wire for power cables and compact electric generators, will participate in the high-growth wind farm market.

AMSC Wire—Leading Performance, Best Price

AMSC's HTS wire continues to lead the industry in price and performance. We have made a significant investment over the 15 years we have been in business to achieve this world-leading position. Over the last two years, we created the world's first, high volume HTS wire manufacturing plant, which we believe will help us maintain and strengthen our lead. We broke ground for this new plant in August 2000 and on December 7, 2001 we took occupancy of the facility. In January 2002, we began qualifying the new manufacturing equipment and in April 2002 we initiated production of the first test wires in this plant. These test wires are expected to provide us with valuable information regarding the operational characteristics of the plant. We will continue to perform manufacturing test runs and to further qualify the new manufacturing equipment as we increase the rate of throughput of the factory consistent with both minimizing costs and meeting our near-term needs for wire sales.

We believe we will be producing wire in volume on a regular basis in this plant by the end of 2002. At that time, we expect to have the capacity to manufacture wire at a rate of 1,000 to 1,500 kilometers per year. Of course, our actual rate of production must be consistent with market demand. If market demand exceeds 1,500 kilometers per year, we believe we can double our capacity to 3,000 kilometers per year within six months with an additional $1.5 million of capital equipment.

When the HTS wire manufacturing plant is fully equipped in the future, the timing of which will depend on market demand for our wire, we expect to be able to manufacture 20,000 kilometers of wire per year from this plant. We estimate that the additional capital costs to expand from 3,000 to 20,000 kilometers per year will be up to $30 million, consistent with our earlier plans.

We believe that the investment we have made to create the world's first commercial HTS wire plant will enhance our ability to increase sales and to speed our march to profitability. Our commitment to volume manufacturing of AMSC wire has already been instrumental in catalyzing development and commercialization activities by original equipment manufacturers who are potential customers for our wire. As these potential customers have assessed the opportunities and market timing for their products, they have been able to accelerate their timetables for launching commercial products that incorporate HTS wire because they can count on AMSC wire being available in commercial quantities and at commercial prices.

AMSC Wire for Power Cables—Creating a New Opening

A key target market for AMSC wire is power cables. HTS power cables can carry up to 10 times the amount of power of conventional cables in the same right of way—a clear advantage in the national effort to break transmission gridlock in an environmentally acceptable way.

The pathway for AMSC wire into the power cable market had been exclusively through Pirelli Energy Cables and Systems, based on an agreement we signed in 1990. During the last fiscal year, we negotiated an amendment to our agreement with Pirelli that, among other things, provides open access to AMSC wire for all power cable manufacturers. We believe this change will increase the demand for our wire over the next several years. Since we signed the amendment to our Pirelli agreement in February 2002, we have been meeting with major cable manufacturers around the globe who are considering AMSC wire for their current and future cable projects.

HTS Power Cable Demonstrations—A Progress Report

On balance, it was a very good year for HTS power cable demonstration projects. Successful cable demonstrations were run by cable makers in Japan (Sumitomo Electric Industries), the U.S. (Southwire), Denmark (NKT Cables) and Mexico (Condumex). These successful cable demonstrations, along with others that were carried out earlier, provide the foundation for additional, more significant demonstrations and for commercial cable projects over the next several years. We believe that AMSC wire is positioned to be the wire of choice for these projects.

A significant disappointment during the last fiscal year was a report from Pirelli that the long-awaited demonstration of their HTS cable system in a Detroit Edison substation was delayed because a leak was discovered in the vacuum insulation of the cable. Pirelli conducted a series of tests on the cable system during the first several months of 2002 and it is now anticipated that Pirelli will make its recommendation to Detroit Edison and the rest of the project team during the summer of 2002 on how to proceed with the cable demonstration. It is possible that the demonstration could still be a technical success, although it seems clear it will not meet all of the original demonstration goals. We are pleased to report in the meantime that tests of the electrical performance of sample sections of the cables that had undergone the installation in Detroit showed that our HTS wire met or exceeded expectations.

AMSC Wire—Emerging New Markets

We believe that another significant market for AMSC wire will be for electromagnetic coils in large utility generators. In October 2001, we were named by GE Power Systems as the primary wire supplier for the HTS utility generators it is currently developing. GE expects to complete a demonstration of a 100 MVA HTS generator in the 2004-2005 timeframe and to begin selling commercial HTS generators thereafter. We believe that the market for wires for HTS utility generators alone could exceed 20,000 kilometers of wire per year, the total annual capacity of our new HTS manufacturing facility, by the end of the decade.

During fiscal year 2002, we delivered HTS wire to a number of companies and research organizations around the world that are developing new applications for HTS wire. We believe significant opportunities could develop in the future for the transportation, industrial processing and medical markets. We also believe that the product and solutions capabilities we are developing today for the power markets will serve us well in these other emerging markets.

As HTS technology continues to prove itself in a wide variety of market applications, we believe the demand for AMSC wire will continue to grow. During the last year, Korea established a $200 million program to demonstrate and commercialize HTS power applications. Our response was to establish a distribution agreement with Korean-based KISWIRE, a leading manufacturer of steel wire products, and a participant in the Korean program, to promote, sell and service our HTS wire in a variety of applications throughout Korea. We will aggressively seek similar ways to leverage our investment in HTS wire manufacturing as the adoption cycle for HTS technology accelerates throughout the world.

Ship Propulsion—Navigating into a High-Growth-Rate Business

Our Electric Motors and Generators business unit is developing the next generation of electric motors and generators using electromagnetic windings made from AMSC wire. We believe, based on dramatic weight and size advantages, that the "killer application" for these HTS motors and generators is electric ship propulsion systems. Industry experts forecast that the growth rate for electric motors and generators for ship propulsion, which is currently about $400 million per year, could exceed 20 percent per year over the next 10 years. This market is primarily for commercial cruise and cargo ships, although the market for military warships is expected to also start growing significantly in the second half of the decade.

Based on our proprietary HTS motor and generator technologies, we believe we are well positioned to participate in this high-growth business. In order to further strengthen our position, we are continuing discussions with potential motor manufacturing partners who could add their design, manufacturing and market channel competencies to our strengths in HTS rotating machinery. We believe we may be able to complete a transaction that will meet our goals during the current fiscal year.

As we continued to build the base of our HTS motor and generator business, we advanced our technology in significant and tangible ways during the last fiscal year. In July 2001 we demonstrated the world's first 5,000-horsepower (hp) HTS motor using our proprietary design and in February 2002 we received our fourth follow-on contract from the Department of the Navy to develop HTS ship propulsion motors. This latest contract builds on earlier successes and requires us to deliver a 6,500-hp HTS ship propulsion motor for land-based testing in the summer of 2003, with at-sea trials anticipated for the end of calendar 2003.

We expect there to be follow-on contract opportunities during the next year from the U.S. Navy for higher power HTS ship propulsion motors. We believe we are well positioned to participate in such opportunities.

All-electric ships require not only motors and generators for propulsion, but also electronic conversion devices to manage shipboard power. In March 2002, we received a contract from the U.S. Navy's Office of Naval Research (ONR) to develop our PowerModule power electronic converter technology to meet Navy needs. Under its Advanced Electric Power Systems program, ONR is developing electric power systems architectures for onboard ship propulsion and other electrical components that will be required for the future all-electric Navy.

Intellectual Property Leadership

During the last fiscal year we added to and vigorously pursued the protection of our portfolio of patents and licenses. Our portfolio of 440 owned and licensed patents and patent applications represents a significant corporate asset that we believe will prove to be extremely valuable as our products begin to gain acceptance in the marketplace. In March 2002, we were listed in a CHI Research report, published by Bloomberg Personal Finance, as one of ten stocks to watch based on our strong patent portfolio.

Fiscal 2003 Outlook

We ended fiscal 2002 with cash, cash equivalents and long-term investments of $68.2 million and no long-term debt. Our plan, assuming no additional cash investments into our company or no monetization of property and equipment assets, is to have at least $35 million in cash, cash equivalents and long-term investments with no long-term debt at the end of fiscal 2003. We believe our existing capital resources will be sufficient to fund our operations until fiscal 2005, at which time we expect to reach corporate-wide profitability.

As of March 31, 2002 we had orders and contracts for $11 million, $8.2 million of which we expect to recognize in the operating results for the current fiscal year. We believe that this beginning backlog, the new orders and new development contracts we expect to receive in the current fiscal year, the new organization we have in place and our strong cash position all provide a solid platform from which we can effectively manage the next stages of commercialization of our technologies and products.

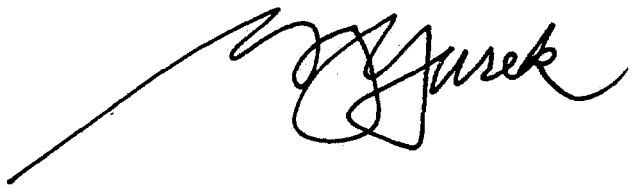
Our 15-Year Advantage

During the past 15 years we have invested over $450 million in developing superconductor and power electronics technologies that we believe will revolutionize the way the world uses electricity. We believe this investment in technology, infrastructure and people gives us a dramatic advantage relative to those who would enter this exciting market today. We intend to leverage the investment we have made to the fullest benefit of our shareholders and employees.

While the last year was a challenging one for American Superconductor, we remain confident about our future. We have a leaner, more streamlined organization in place, we have the talent and the financial resources needed to drive our business to profitability and we believe we have world-class technologies and products that are converging with high-growth markets such as ship propulsion and wind farms.

We also believe that products for the power transmission grid will become a high growth opportunity for our company. The pressure to clarify regulatory policies governing power grid investments is stronger than ever. Under the leadership of a determined Federal Energy Regulatory Commission and with the catalyst of possible Congressional legislation, the power industry is making rapid progress toward the establishment of a "Standard Market Design" for wholesale electricity that, for the first time, will appropriately value and reward investments to remove grid bottlenecks.

We are thankful to our shareholders for their support of our company and we are determined to deliver value to them as reward for their patience.



Gregory J. Yurek
President, Chief Executive Officer and Chairman
June 18, 2002

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

FOR ANNUAL AND TRANSITION REPORTS PURSUANT TO SECTIONS 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

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

For the fiscal year ended March 31, 2002

OR

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

For the Transition Period from _____ to _____

Commission file number 0-19672

American Superconductor Corporation

(Exact Name of Registrant as Specified in Its Charter)

Delaware **(State or other jurisdiction of incorporation or organization)**	**04-2959321** **(IRS Employer Identification Number)**
Two Technology Drive **Westborough, Massachusetts** **(Address of Principal Executive Offices)**	**01581** **(Zip Code)**

Registrant's telephone number, including area code: (508) 836-4200

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

Securities registered pursuant to Section 12(g) of the Act: Common Stock, $.01 par value

Indicate by check mark whether the Registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes X No _____

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

On April 30, 2002, the aggregate market value of voting Common Stock held by nonaffiliates of the Registrant was $154,468,955 based on the closing price of the Common Stock on the Nasdaq National Market on April 30, 2002.

The number of shares of Common Stock outstanding as of April 30, 2002 was 20,536,459.

DOCUMENTS INCORPORATED BY REFERENCE

Document	Form 10-K Part
Definitive Proxy Statement with respect to the Annual Meeting of Stockholders for the fiscal year ended March 31, 2002, to be filed with the Securities and Exchange Commission by June 25, 2002.	Part III

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This Annual Report on Form 10–K contains forward–looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended. For this purpose, any statements contained herein that relate to future events or conditions, including without limitation, the statements under "Item 1. Business" and "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" and located elsewhere herein regarding industry prospects and the Company's prospective results of operations or financial position, may be deemed to be forward–looking statements. Without limiting the foregoing, the words "believes," "anticipates," "plans," "expects," and similar expressions are intended to identify forward–looking statements. Such forward-looking statements represent management's current expectations and are inherently uncertain. The important factors discussed below under the caption "Management's Discussion and Analysis of Financial Conditions and Results of Operations—Future Operating Results," among others, could cause actual results to differ materially from those indicated by forward–looking statements made herein and presented elsewhere by management from time to time. Any such forward-looking statements represent management's estimates as of the date of this Annual Report on Form 10K. While the Company may elect to update such forward-looking statements at some point in the future, it disclaims any obligation to do so, even if subsequent events cause its views to change. These forward-looking statements should not be relied upon as representing the Company's views as of any date subsequent to the date of this Annual Report on Form 10-K.

Item 1. *Business*

Overview

American Superconductor Corporation is a world leader in developing products using superconductor materials and power electronic converters – technologies we believe will revolutionize the way the world uses electricity. We design, develop, manufacture and market two core enabling products: high temperature superconductor (HTS) wires and power electronic converters. We also develop and manufacture value-added products based on these core products, including electric ship propulsion motors and integrated power electronic systems that are used to increase power reliability and quality. Our current and planned products are sold or planned to be sold to electrical equipment manufacturers, industrial power users, builders of ships that utilize electric drives and businesses that produce and deliver electric power. Our products, and those sold by others who incorporate our products, can:

- Dramatically increase the reliability and power transfer capacity of power transmission and distribution grids;
- Substantially improve the quality of electric power delivered to manufacturing plants;
- Greatly reduce the manufacturing and operating costs of primary electric equipment, including generators and motors;
- Significantly reduce the size and weight of power cables, motors, generators, and other electric equipment; and
- Conserve energy resources used to produce electricity, such as oil, gas and coal, by more efficiently conducting and converting electricity into useful forms.

We believe there will be significant market demand for our products because of the following factors:

- Demand for electric power is growing on a global basis;
- The power grids in many developed nations are severely constrained in their ability to safely carry and deliver large amounts of power;
- Power reliability and power quality are increasingly important as economies transition to computerized and digitized systems;
- U.S. domestic policy is now addressing the need to upgrade the transmission and distribution grid as part of an effective long-term national energy policy; and
- Environmental threats from global industrialization and population growth continue to influence nations to encourage environmentally friendly power technologies.

Superconductor Technology

A superconductor is a perfect conductor of electricity. It carries direct current with 100% efficiency because no energy is dissipated by resistive heating. Direct current in a superconducting loop can flow undiminished forever. Superconductors can also conduct alternating current but with some slight loss of energy.

Superconductor materials lose all resistance to the flow of direct electrical current and nearly all resistance to the flow of alternating electrical current when they are cooled below a critical temperature. The critical temperature is different for each superconductor material. Superconductor materials, including both HTS materials and low temperature superconductor (LTS) materials, need to be cooled to very low temperatures to act as superconductors. Wires made with HTS material typically operate at temperatures that are five to 20 times higher than the operating temperatures of LTS materials. The process of cooling LTS materials to their critical temperature is expensive and often difficult, which limits the commercial applications of LTS technology.

A combination of three conditions must be met for a material to exhibit superconductor behavior:

- The material must be cooled below its critical temperature (T_c);
- The current passing through a cross-section of the material must be below a level known as the critical current density (J_c); and
- The magnetic field to which the material is exposed must be below a value known as the critical magnetic field (H_c).

The initial discovery of superconductor materials was made in 1911. Before 1986, no known superconductor had a critical temperature above 23 Kelvin. Zero Kelvin is the absolute zero of temperature, and is the equivalent of minus 459 degrees Fahrenheit; 23 Kelvin is the equivalent of minus 418 degrees Fahrenheit.

In 1986, a breakthrough in superconductivity occurred when two scientists, Dr. K. Alex Müller and Dr. J. Georg Bednorz, at an IBM laboratory in Zurich, Switzerland, identified a ceramic oxide compound, an HTS material, which was shown to be superconductive at 36 Kelvin (minus 395 degrees Fahrenheit). This discovery earned them the Nobel Prize for Physics in 1987, which is one of the four Nobel Prizes that have been awarded for work on superconductivity. A series of related ceramic oxide compounds that have higher critical temperatures have been subsequently discovered. This family of ceramic superconductors has come to be known as HTS materials. Some of these materials are being actively used throughout the world and by us for practical wire applications. A variety of organic materials called "fullerenes" have been discovered to be superconductors with critical temperatures intermediate between the high temperature ceramic oxide superconductors and low temperature metallic superconductors. Because of the expense and complexity of synthesizing the fullerenes and also their limited performance in a magnetic field, these have generally not been actively considered for wire applications.

In early 2001, it was discovered that a well-known and widely available material, Magnesium Diboride (MgB_2), has a superconductor transition temperature at 40 Kelvin (minus 387 degrees Fahrenheit). The properties of MgB_2 are consistent with those of LTS materials. Because of its potential low cost and ease of synthesis, work has been initiated around the world, including at American Superconductor, to investigate the use of MgB_2 in wire applications.

Power Electronics Technology

Advances in power electronics technology are enabling new, more reliable, more compact and efficient power converters, which are fundamental to integrated systems. Power electronic converters convert power to the appropriate form for a particular electrical application. Common examples of power electronic conversion include DC-DC converters used to change the DC voltage of a source, AC-DC converters used at the interface between AC power cables and a number of appliances that only use DC power, DC-AC converters, usually called inverters, used to convert DC power to AC power, and AC-AC converters used to change and regulate an AC source.

Today's power electronic converters incorporate power semiconductor devices that switch, control and move large amounts of power faster and with far less disruption than electromechanical switches. The power semiconductor devices ("active electronic devices") used in power converters vary by power, frequency, voltage rating and other functionality of the power converter. Power semiconductor devices used commercially today by various designers and manufacturers of power converters, include Insulated Gate Bipolar Transistors (IGBT), Metal Oxide Semiconductor Field Effect Transistors (MOSFET), Integrated Gate Commutated Thyristor (IGCT), MOS Controlled Thyristors (MCT) and MOS Turn-off Thyristor (MTO). These power semiconductor devices use silicon as the base semiconductor material and are typically limited to voltages up to 6500 volts DC. Use of silicon carbide semiconductor devices are being investigated for use in higher frequency applications (greater than 20,000 hertz at voltages up to 2,500 volts DC).

Power converters are incorporating microprocessors and digital signal processors (DSPs) to provide enhanced operation, higher levels of integration, speed control and efficiency. The use of printed circuit board (PCB) designs have advantages over the screw-terminal designs because they result in high levels of automated

manufacturing, integration and reliability. These converter design trends are driving the power conversion industry toward the adoption of Power Electronic Building Blocks (PEBBs), which will lead to a new generation of modular power converter products with higher levels of integration and intelligence. These building blocks will include high speed communications (such as fiber optics) to allow integration into multiple module systems.

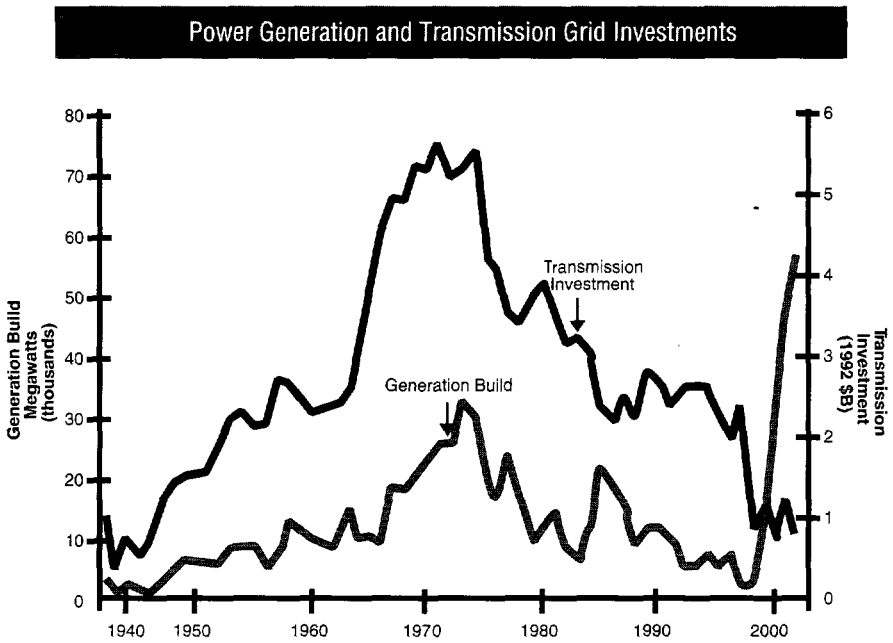
Market Overview

Power Demand and Transmission Capacity

The Electric Power Research Institute (EPRI) has estimated that electricity as a percentage of total energy use in the U.S. was 25% in 1975 and will increase to 50% by 2020. This large projected increase is being driven in part by growth in the use of computers, the Internet, telecommunications, and other consumer-based electronic products. Projected growth rates for power consumption by these newer technologies are far higher than for traditional uses of power, which have historically grown in proportion to the GDP. We believe this growth in power consumption, and the corresponding demand for more reliable and higher quality power to support digital applications, will create demand for many of our products.

We believe another key factor affecting the market for our products and technologies is the expected need for improvements to the transmission infrastructure of the United States. In May 2002, the U.S. Department of Energy issued its National Transmission Grid Study (NTGS), which highlights the important role the power grid plays in our economy. This study specifically outlines the major bottlenecks in the nation's transmission system and makes recommendations for eliminating them. The report makes clear that if investment in the grid does not begin now, the electrical transmission grid will become much more congested, resulting in lower reliability and higher prices for electricity. We believe that the recommendations outlined in the NTGS report will be favorable to our efforts to commercialize our products and technologies. The report specifically calls for adopting new technologies including superconductors and power electronics to help alleviate transmission grid congestion.

The chart below illustrates the decline in investment in the U.S. transmission grid over the last several decades. This trend is the result of uncertainties with respect to the ownership and the return on investment in transmission grid assets caused by uncertainties in potential changes in transmission grid regulations and policies. We believe this decrease in investment in the transmission grid in the U.S. coupled with the increasing demand for more electric power by customers has created a pent-up demand for transmission grid solutions.



Source: Cambridge Energy Research Associates

We expect that the pent-up demand for transmission grid solutions will be favorable to the sales of our current and planned products. In addition, we expect that the demand for our products and technologies could increase with changes in certain regulations and policies related to the operation of the transmission grid. We believe that the latter changes could stimulate investment in the grid just as deregulation of the telecommunications industry created rapid investment in optical fibers in the 1980s and in power generation equipment in the late 1990s, as shown in the above chart.

Power Quality and Reliability

The reliability of the power transmission network and the quality of power delivered to customers are becoming increasingly important in today's economy. Reliability is a measure of the availability of power coming through the grid. Grid congestion caused by growing electrical demands on capacity-constrained power lines and cables, and voltage instability and low voltage in the power grid is causing significant reliability problems for the nation's growing digital-based economy.

Downtime due to power-related problems is becoming an increasing concern to many industries as the equipment used to manufacture products utilizes more and more power-sensitive digital components. Protection against power quality problems such as voltage sags lasting two seconds or less can provide significant economic value to large industrial users of power. Such momentary sags cause more than 90% of all plant shutdowns, which can last from hours to days and can be very costly. Sandia National Laboratories estimates that the annual cost to U.S. businesses of power disturbances is $150 billion with $114 billion or 76% resulting from voltage sags and other voltage regulation problems.

In the past, electric utilities attempted to enhance the reliability of transmission grids primarily by installing more power lines. Transmission grid operators are finding it increasingly difficult to get permits for new lines due to environmental, health, safety, property value and aesthetic concerns. As a result, transmission grid operators are seeking new solutions for power reliability problems. At the same time, industrial power users who assume power will be available from the grid to run their manufacturing operations are seeking new solutions to ensure that voltage sags, which are a part of the normal operation of transmission grids, and other power quality problems, are eliminated at their factory substations.

We believe we are well positioned to participate in the expected increases in investment in grid reliability solutions and in industrial power quality solutions over the next decade and beyond. We anticipate that our participation in this growing opportunity will be through sales of power quality and reliability systems and related products, based on our power electronic converter technologies, and through sales of our HTS wires for high-capacity power cables that increase the power capacity of existing rights of way, thereby relieving grid congestion.

Power Electronic Converters

Driven in part by the trend toward a global digital economy, the complexity of switching power into useful forms is increasing. This in turn is driving the market for power conversion applications. Industry experts estimate that more than 20% of all power generated in the U.S. passes through power electronic converters at power levels exceeding 60 kW and that this amount will increase with the introduction of new applications, including distributed and dispersed generation of power.

Electrical devices are becoming more "intelligent" as microprocessors and embedded controllers add new functionality to power converters. Key trends in power electronic converters designed for use in power infrastructure applications include greater modularity and standardization, programmability, and the demand for smaller units with higher power density. We are focusing our power conversion product development activities on power levels of 60 to 1,000 kW because we believe this is the segment of the market where our power conversion technology offers the greatest value to customers.

We believe, based on market analyses we have performed, that the addressable market for our power converter product line, at power levels greater than 60kW, is approximately $1 billion per year. The addressable markets include motor drives, uninterruptible power supplies and other power quality systems, wind turbines, electric vehicles, transmission grid reliability solutions and distributed and dispersed generation devices, such as fuel cells and diesel generators.

Motors and Generators

The market for large electric motors and generators is well developed, with strong competitors and intense price pressure. We estimate that the annual worldwide market for industrial motors (machines with ratings of 1,000 horsepower (hp) or higher) is approximately $1 billion, growing worldwide at a compound annual growth rate (CAGR) of 2 to 4 percent. The worldwide market for utility-scale electrical generators (with power ratings over 100 mega-volt-Amperes (MVA)) is approximately $1.6 billion per year, and the market for industrial generators (typically 20 to 100 MVA) is approximately $0.4 billion. The worldwide market for utility and industrial generators is growing at a CAGR of approximately 2 to 4 percent.

During the last 10 years, the commercial cruise ship industry has made a transition to electric propulsion systems. This means that electric motors are used to directly drive the ship's propeller. An electric generator powered by a gas turbine, or other prime mover, provides the electricity to run the motor. Today essentially all commercial cruise ships, and many cargo ships, are being built with electric propulsion systems. In January 2000, the U.S. Navy decided to also transition to electric propulsion systems.

The current market for electric motors and generators for ship propulsion systems is approximately $400 million. Industry experts forecast that this market will grow at a CAGR exceeding 20 percent over the next 10 years due to the acceleration in the transition to electric drives.

Large electric motor and generator production today is labor intensive, requires a large fixed asset investment, and does not lend itself to mass production techniques. As a result, many manufacturers of large motors and generators are seeking opportunities to reduce manufacturing and/or investment costs to improve profitability. We believe that the size and weight reductions in large electric motors and generators resulting from the use of HTS technology will enable significant reductions in manufacturing costs of these rotating machines. We also believe that the attributes of HTS motors, including their smaller size, lighter weight, and their higher fuel efficiency make them ideal products for electric ship propulsion. During the last two years, we have shifted our focus in the development of electric motors and generators to ship propulsion applications. We believe we are well positioned to be a leader in this emerging, rapid-growth industry.

Our Businesses

We are organized into three business units: the HTS Wires, Electric Motors and Generators and Power Electronic Systems business units. The Power Electronic Systems business unit was formed in March 2002 by consolidating two former business units, Power Quality and Reliability and Power Electronics. We have been reporting our financial results until now for two business segments: "HTS" and "PQ&R". As of this report, we have decided to report financial results for three business segments: "HTS Wire", "Electric Motors and Generators" and "Power Electronic Systems", consistent with how we now manage our operations and the relative stage of commercialization of our products and technologies.

Each business unit is run separately by a vice president and general manager, who reports to the chief executive officer. Although these business units are run independently, we make every effort to leverage common customer and technology opportunities across each of the business units. Each of our business units is engaged in the manufacture and sale of commercial or prototype products and in the development of technology and new products. Our Power Electronic Systems business unit has been selling commercial products for the last three years. Our HTS Wire business unit is just starting to sell HTS wires as a commercial product and our Electric Motors and Generators business unit is at an earlier stage in which it is developing, assembling, and testing prototype motors and generators.

A common customer for each of these business units is transmission grid operators, and thus, much of our sales and marketing efforts are directed to this category of customers. A significant part of our sales and marketing efforts is focused on the U.S.; however, we are currently marketing our products and technologies around the world. Our channels to market include direct sales, agents and manufacturers' representatives, as well as a strategic alliance with GE Industrial Systems, a division of the General Electric Company, with whom we offer co-branded products.

HTS Wire Business

The HTS Wire business unit is responsible for the design, development and manufacture of HTS wires. It sells wire to original equipment manufacturers (OEMs) that incorporate HTS wire into value-added products. Our current commercial wire product is a multi-filamentary composite (MFC) wire that can carry over 140 times the power of copper wires of the same dimensions. Currently, the HTS Wire business unit is selling or plans to sell its MFC HTS wire primarily to manufacturers of power cables, utility generators, and ship propulsion motors and generators, which incorporate this wire into prototype power cables, motors and generators. Our Electric Motors and Generators business unit is a customer of our HTS Wire business unit.

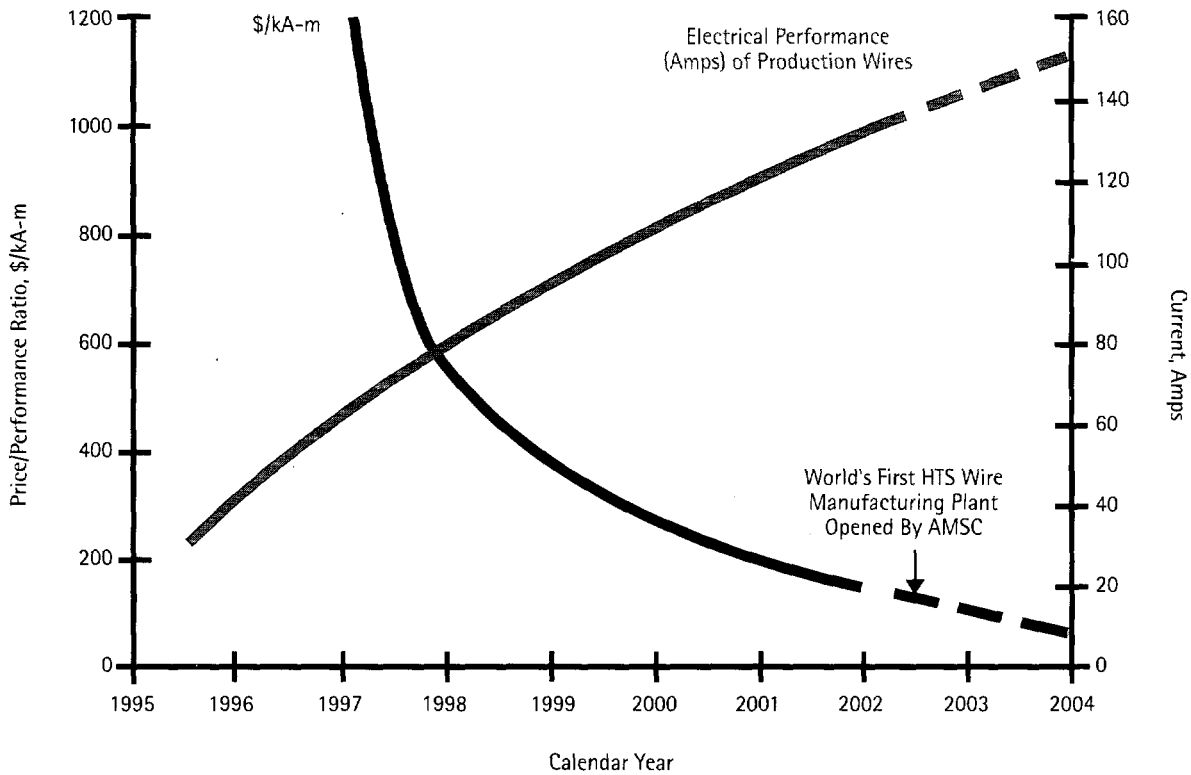
Other HTS wire applications are being developed by research and development organizations and OEMs around the world for use in the transportation, medical and industrial processing markets. We are also marketing and selling our HTS wire to these customers.

HTS Wire Production Techniques: We produce HTS wire by a variety of techniques. The principal technique involves deformation processing, which is analogous to the techniques used in the existing metal wire industry. In this approach, a metal tube, typically silver, is packed with an oxide precursor powder and sealed. The tube is then deformed into a wire shape by a variety of deformation processing techniques such as extrusion, wire-drawing, multi-filamentary bundling, and rolling. Finally, the wire is heat-treated to transform the precursor powder inside the wire into a high temperature superconductor. We consider the resulting composite structure, in this case consisting of many fine superconductor filaments embedded in a metal matrix, to be one preferred method of achieving flexibility and durability in our wires. The composite structure is the subject of a patent owned by MIT, based on an invention by Dr. Gregory Yurek, the Company's Chairman of the Board, President, Chief Executive Officer and founder, and a former professor at MIT, and Dr. John Vander Sande, a professor at MIT, founder, and a member of the Company's Board of Directors. This patent is licensed to AMSC on an exclusive basis until its expiration date in 2011.

We have applied for and have received additional patents based on the composite wire structure. As of March 31, 2002, we have approximately 140 patents and patents pending worldwide on just MFC wire technology. As of March 31, 2002, we also have licenses to approximately 64 worldwide patents owned by others on MFC technology. We believe we have a very strong intellectual property position in the area of MFC wire.

In the past few years, we made significant progress improving the price-performance ratio of our HTS wire as shown in the following graph. The price-performance ratio is obtained by dividing the price-per-meter ($/m) we charge customers by the amount of kilo Amperes (kA) this wire can carry.

AMSC HTS Multi-Filamentary Composite Wire



The dashed lines in the above chart show our projections for the price-performance ratio over the next several years and for the electrical performance (current carried by a wire measured in Amperes) of our manufactured wire over the same period. A key factor in driving down the price-performance ratio is the start up of our new HTS wire manufacturing plant, which we expect will lower manufacturing costs through the economics of volume manufacturing, factory automation and enhanced productivity.

Our projection in the above chart for future performance of HTS wire is based on our current ability to make long lengths of individual MFC prototype wires with high electrical performance (140 Amperes over 800-meter lengths of wire) and our ability to make short MFC wire samples at the 170 Ampere level in our product enhancement effort. We intend to incorporate these performance capabilities into our future wire production. While we are confident, based on our history, that we will be able to achieve this goal, we cannot assure that we will be successful in this endeavor.

We expect that we will be able to meet our projections, which are shown in the above chart, to achieve a price-performance ratio of $50/kA-m in the 2005 timeframe. We believe this price-performance ratio is very attractive for certain power cable applications, utility generators and ship propulsion motors and generators.

We are currently manufacturing our HTS wire at our 102,000 square-foot Westborough, Massachusetts, headquarters facility at the rate of 500 kilometers (300 miles) per year. We have implemented statistical process control techniques and we have defined manufacturing procedures for low-cost, reliable manufacturing operations in this facility, which has provided a foundation for expansion of our manufacturing capacity.

In the fall of 2001, we completed the construction of a new 355,000-square-foot MFC-HTS wire manufacturing facility located in Devens, Massachusetts. Equipment and personnel have been moved into the facility and initial HTS wire test production runs have begun. These first test wires are expected to provide valuable information on electrical performance and manufacturing yield, and to help validate the manufacturing processes in the new facility. We are carrying out our plan to continue production test runs in the summer of 2002 and to have the capability to be in volume production by the end of 2002. At that time, we believe we will have the capacity in place to manufacture wire at a rate of 1,000-1,500 kilometers per year. We will manufacture at that rate only if we receive orders for the wire produced; otherwise, we will produce wire at a rate consistent with market demand. If market demand exceeds 1,500 km per year we believe we can double our capacity to 3,000 km per year within six months with the installation of equipment at the estimated cost of an additional $1.5 million.

We believe that the Devens manufacturing facility will provide us with a competitive advantage as the market for HTS wire grows over the next several years. The facility, when fully equipped in the future, is capable of producing 20,000 kilometers (12,000 miles) of HTS wire annually. We estimate that the additional cost to expand from 3,000 kilometers per year to 20,000 kilometers per year will be up to $30 million. At this volume of manufacturing, we expect that we will be able to continue to bring down the manufacturing costs of our HTS wire and that we will be able to meet the needs of the growing market better than other manufacturers of HTS wire.

We have been successful in developing and producing MFC wire with performance levels sufficient to meet the technical needs for applications such as power cables for urban power transmission systems, for utility generators and for motors with power ratings over 1,000 hp. While we believe our HTS wire costs will meet the commercial needs for power cables for urban transmission systems, for utility generators and for motors with power ratings over 1,000 hp, there can be no assurance that we will achieve this goal or, if we do achieve it, that the market will adopt these new products.

Status of HTS Wire Development: We are continuing to conduct product development efforts to further improve the performance and reduce the cost of manufacturing our MFC wire. In parallel, we have also been conducting an intensive research and development program on coated conductor composite (CCC) HTS wire, which we believe could become a lower-cost, form-fit-function replacement for MFC wire in the future.

Within the past seven years, very high levels of current carrying performance have been reported in small laboratory samples of CCC HTS wire by a variety of laboratories, including our own. Coated conductor composite wire comprises a thick film of HTS material deposited on a flexible base, typically with a buffer layer in between. We have studied many processes for manufacturing CCC wire over the last seven years, and during this period we have collaborated with Oak Ridge National Laboratory, MIT, Los Alamos National Laboratory, Lawrence Berkeley National Laboratory, Stanford University, the University of Wisconsin and other organizations in the research and development of this technology. From this broad array of technologies and possible manufacturing processes we have investigated, we believe we have selected a proprietary manufacturing process for CCC wire which could yield a price-performance ratio of approximately $10/kA-m when in commercial production. If we are able to achieve this goal, CCC wire could create the possibility for broader and deeper market penetration of HTS products and technology.

We have achieved the production of one-meter lengths of CCC wire by our proprietary continuous manufacturing process. This process has yielded reproducible performance results that are equal to or better than those demonstrated by others using much more costly manufacturing techniques. We are continuing our in-depth research and development of CCC wire and if we are successful in meeting our internal goals for performance and manufacturing costs, we expect to move to pilot production of CCC wire in 2003. If our development effort is successful, we expect commercial production of CCC wire to begin in the 2005–2006 timeframe. While we are enthusiastic about the prospects for our CCC wire technology, there can be no assurance that we will succeed in developing this technology for commercial use.

In addition to CCC wire research and development, we are engaged in technical evaluation and analysis of other superconductor materials, most notably MgB_2. If MgB_2 performance in magnetic fields could be further improved, in spite of its relatively low transition temperature it could find long-term application in areas like utility generators or magnetic resonance imaging devices operating at 20 to 30 Kelvin. We believe our expertise in composite wire fabrication methods provides us with the capability to develop a cost-effective wire manufacturing process for MgB_2.

Key Markets for HTS Wires (Power Cables): We believe that an important application for our HTS wire is high-capacity power cables. Because of the high power capacity of HTS wire, HTS power cables have the potential to carry up to ten times more power, depending on the design of the cable, than copper-wire cables of the same dimensions. The performance levels and mechanical properties of our HTS wire are sufficient today to meet the technical requirements for cables that can alleviate congestion in urban power delivery systems.

There are several designs for HTS power cables that are being developed and tested by a number of cable manufacturers around the world. In all cases, the cryogenic coolant for the HTS wires in these cables is liquid nitrogen. Nitrogen, which makes up about 79 percent of air, is an environmentally friendly, nonflammable material. When cooled by standard industrial refrigeration techniques, nitrogen gas turns into a relatively inexpensive liquid, which is used in many applications, from steel making to crushing of spices to cryogenic freezing of biological materials on farms.

HTS power cables must be thermally insulated from their surroundings to minimize the refrigeration expense associated with keeping the nitrogen in the liquid state and therefore keeping the temperature of HTS wires below their critical temperature (see "Superconductivity"). The cryogenic insulation, typically called a cryostat, is made in a variety of forms depending on the cable architecture. Cryostats of the type needed for HTS power cables have been manufactured for decades by companies such as Nexans and Vacuum Barrier Corporation. The kind of cryogenic refrigeration equipment needed for HTS power cables is typically made by companies such as Air Products and Chemicals, Praxair and others. Further developments to improve the costs of both cryogenic refrigeration and cryostats are necessary to catalyze broad market adoption of HTS cables.

HTS cables can provide a variety of advantages over conventional copper cables. HTS cables can be installed in existing conduits, rather than building more conduits for traditional copper cables, which eliminates excavation costs and significantly reduces construction and engineering costs. Such costs typically account for up to 70% of total system costs for underground transmission projects in urban areas. In addition, replacing copper cables in existing power systems with HTS cables frees up underground cable conduits for other uses, such as telecommunications, high-speed Internet and cable television. We believe that installation of HTS cables in existing urban conduits will eliminate the use of some substations within cities, improving system operation and potentially freeing up valuable real estate for other uses. We also believe that the advantages of HTS cables will be very attractive to businesses that distribute power in suburban settings, many of which find it increasingly difficult to secure clearance for the installation of new overhead power lines.

We have conducted financial analyses regarding the application of HTS, long-distance DC cables moving large quantities of power. A key application for such high-capacity HTS DC cables could be for moving power from sources of generation, such as wind farms and coal mines, to the main power grid or to load centers, such as cities. Other applications could be cross-boarder power interconnects, for example, between countries in Europe or moving power from regions where generation costs are low to regions where generation costs are high. For DC cable projects requiring more than 1700 MW of power, our financial models show that HTS cables are more cost-effective than copper cables and that the return on investment for such cable installations can be significant. We believe this market opportunity for HTS wires could be significant.

Several leading cable manufacturers are presently involved in HTS cable demonstration projects throughout the world including Pirelli Energy Cables & Systems ("Pirelli"), Sumitomo Electric Industries ("Sumitomo"), Southwire, and NKT Cables ("NKT"), with other projects scheduled to begin over the next several years. Pirelli and Sumitomo first conducted successful HTS cable demonstrations in 1996.

Sumitomo, Southwire and NKT have each been running HTS cable demonstration projects for over one year as of June 2002. In addition, Pirelli has been managing an HTS cable demonstration project at a Detroit Edison substation in Detroit, Michigan, during this period. This cable project represents the first time superconductor cables have been targeted for use in a utility power grid in the United States. Pirelli manufactured three HTS cables in early 2001, using HTS wire we manufactured and shipped to them in August 2000. Pirelli installed the cables in existing conduits at the Detroit substation in July 2001.

In December 2001, Pirelli discovered leaks in the cryostats in the cables that it had installed at the Detroit Edison substation which prevented the cables from being energized. Pirelli is conducting tests on the three cables to determine the exact cause and location of the vacuum leaks, and to determine its course of action with respect to completing this project. Based on current information available to us, we believe it is likely that this project will meet many, but not all, of its intended technical goals.

Our HTS wire used in the Detroit cable project met or exceeded performance expectations as demonstrated by tests conducted by Pirelli on sample sections of the cables that had been installed in the Detroit substation. We believe that our HTS wires meet the technical requirements needed for HTS power cables.

We believe that significant progress has been made during the last year in the development and demonstration of HTS power cables. We also believe that additional cable demonstrations will be conducted over the next several years and that HTS power cables will be commercialized during this time; however, there can be no assurance that operators of transmission and distribution grids will adopt HTS power cables during this period. To the extent that HTS cables are adopted for commercial applications, we believe our HTS wire will be competitive and that we will have a significant market for our HTS wires in power cable applications.

Until now, our HTS wire has been used in cable demonstrations conducted only by Pirelli, with whom we have had a strategic alliance since 1990. The Pirelli alliance has encompassed a series of different agreements intended to combine Pirelli's cable technology, manufacturing and marketing expertise with our proprietary wire manufacturing technologies for the purpose of developing and producing HTS wire for cables. In February 2002, Pirelli agreed to alter their long-standing agreement with us. Under the new agreement, we have licensed back from Pirelli the right to sell our HTS wire to other cable manufacturers worldwide. We believe that this will expand the addressable market for our HTS wire used in power cables and help to accelerate the adoption of HTS power cables while increasing sales of HTS wire.

Under terms of the new agreement, we paid Pirelli a one-time license payment of $2.25 million, and we forgave a $1.375 million accounts receivable balance. We also granted Pirelli 50,000 shares of the Company's Common Stock, which Pirelli will hold until at least September 30, 2003. Under this new agreement, we will pay a royalty to Pirelli for any wire that we sell to other cable manufacturers. The revised agreement also discontinues Pirelli's funding to us for research and development on HTS wires for cable applications. Under the previous agreement, Pirelli provided us with $2,000,000 per year in research and development funding. Pirelli will, however, continue its participation in our MFC wire research and development programs through September 2003. Through March 31, 2002, Pirelli had provided us with a cumulative total of $23.1 million in development funding, including $7.0 million from the most recent contract dated December 15, 1999, under which Pirelli had agreed to provide us with up to $13.8 million in additional funding over the five-year period from October 1, 1999 through September 30, 2004.

Currently our HTS Wire business unit is in discussions with several power cable manufacturers from around the world regarding the incorporation of our HTS wire in their current and future HTS cable demonstrations and commercial cable projects. We believe it is likely our HTS wire will be used by one or more of these cable manufacturers; however, we cannot assure that these cable manufacturers will buy our wire or, to the extent that they choose to buy our wire, that HTS power cables will be adopted by power transmission and distribution operators.

Key Markets for HTS Wire (Utility Generators): We believe another significant market for our HTS wire will be utility generators, which are generators that produce 100 MVA or more of power. General Electric Power Systems (GEPS), a business of the General Electric Company, is currently developing a 100 MVA HTS electrical generator using our HTS wire. We have been selected by GEPS to be their primary wire supplier for utility generators. Over the last two years we have supplied HTS wire to GEPS for test purposes, which has provided the foundation for our selection by GEPS as their primary HTS wire supplier.

The first 100 MVA HTS generator is expected to be under test in 2004. We believe commercial HTS utility generators could be in operation in 2005 and beyond. We also believe that the performance and projected costs of our HTS wire are sufficient to meet the needs of commercial HTS generators in this time frame.

The four primary manufacturers of utility generators are GEPS, Alstom, Siemens and Mitsubishi. We are currently marketing our HTS wire to all of these generator manufacturers with the goal of becoming the primary wire supplier to each of them; however, we can make no assurances that these generator manufacturers will develop commercial HTS generators and to the extent they are successful that they will choose our HTS wire.

Key Markets for HTS Wire (Ship Propulsion Motors and Generators): Our Electric Motors and Generators business unit is a customer for our HTS wire. Our Electric Motors and Generators business unit manufactures electromagnetic coils from the HTS wires, which it then incorporates into electric motors and generators. Rockwell Automation has also built HTS electric motors, that incorporate our HTS wire. We are marketing our wire to other potential manufacturers of motors and generators for ship propulsion and other applications.

We believe the market for HTS wire for electric motors and generators for ship propulsion applications will be significant and we believe we are in a position to capture a large share of this market; however, we cannot assure that a market for HTS electric motors and generators will develop or, to the extent that it does, that our HTS wire will be purchased by the manufacturers of these machines.

Other HTS Wire Applications: Our primary focus for HTS wire sales is for electric power equipment such as power cables, generators and motors. Over the last several years, we have also sold our HTS wires to a number of OEMs and research and development organizations that are developing other applications for HTS wire. We have, for example, provided HTS wire for use in an industrial processing device know as a magnetic separator, which is currently being developed and tested by DuPont. We have also sold our wire for novel transportation applications and certain customers are evaluating our wire for medical applications. We have also sold our wire for electromagnets used in instruments such as ion beam steering machines and particle accelerators.

Some of these other applications have the potential to become significant markets for our HTS wire and we will continue to market our wire to the developers of these and other new products. We cannot make any assurances, however, that these markets will develop, that they will become significant markets or that our wire will be purchased for use in these markets.

Sales and Marketing for HTS Wire: We sell our HTS wire and wire products through both a direct sales force and through marketing and distribution alliances with third parties. We expect to leverage the technical knowledge of our sales force with the strengths of our strategic alliance partners in understanding customer needs and creating market demand for new electrical products based on our HTS products. In the fall of 2001, we signed a multi-year distribution agreement with KISWIRE Ltd., a leading Korean wire manufacturer, to distribute our HTS wire into the Korean market.

Competition for HTS Wires: We face intense competition both from vendors of traditional wires, such as copper, and from competitors who are developing HTS wires. There are several companies around the world that are our competitors in the market for HTS multi-filamentary composite wires. They presently include Sumitomo Electric Industries (we consider Sumitomo, located in Japan, to be our most significant competitor), Nordic Superconductor Technologies (part of NKT Holding, located in Denmark), Vacuumschmelze GmbH (a division of Morgan Crucible, located in Germany), Bejing Innova Superconductor Technology Co. Ltd., (a new company formed in China during the last year), and Trithor (a start-up company in Germany).

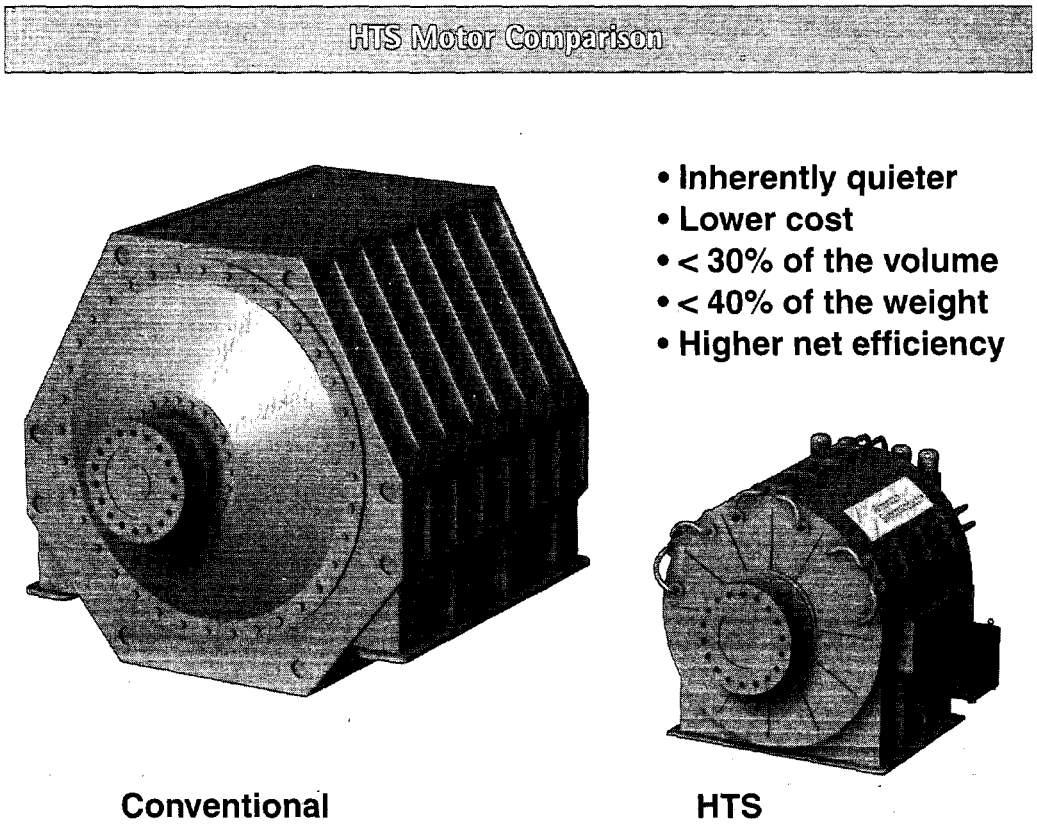
We also face competition in the area of research on coated conductor composite wires from a number of companies in the U.S. and abroad. These include Sumitomo, Fujikura and Hitachi in Japan, Nexans in France and 3M, Intermagnetics General and EURUS Technologies in the U.S.

Many of our competitors have substantially greater financial resources, research and development, manufacturing and marketing capabilities than we do. In addition, as the HTS markets develop, other large industrial companies may enter these fields and compete with us.

Electric Motors and Generators Business

Our Electric Motors and Generators business unit is responsible for the design, development, manufacture, test and commercialization of HTS electric motors with power ratings up to approximately 40,000 hp (30 MW) and generators with power ratings generally in the range of 20 to 100 MVA. This business unit buys HTS wire from our HTS Wire business unit and winds this wire into electromagnetic coils of various sizes and shapes which are incorporated into the rotors of alternating current (AC) synchronous motors and generators (rotating machines). In such rotating machines, the rotor coils utilize direct current (DC), for which our HTS wires exhibit zero electrical resistance, a feature that typically cuts the electrical losses of AC synchronous rotating machines in half compared with copper-based machines.

The use of HTS wire in rotating machines provides us with additional competitive advantages by enabling significant reductions in size, weight and manufacturing costs relative to conventional machines. The advantages of HTS rotating machines in ship propulsion applications are summarized in the following figure:

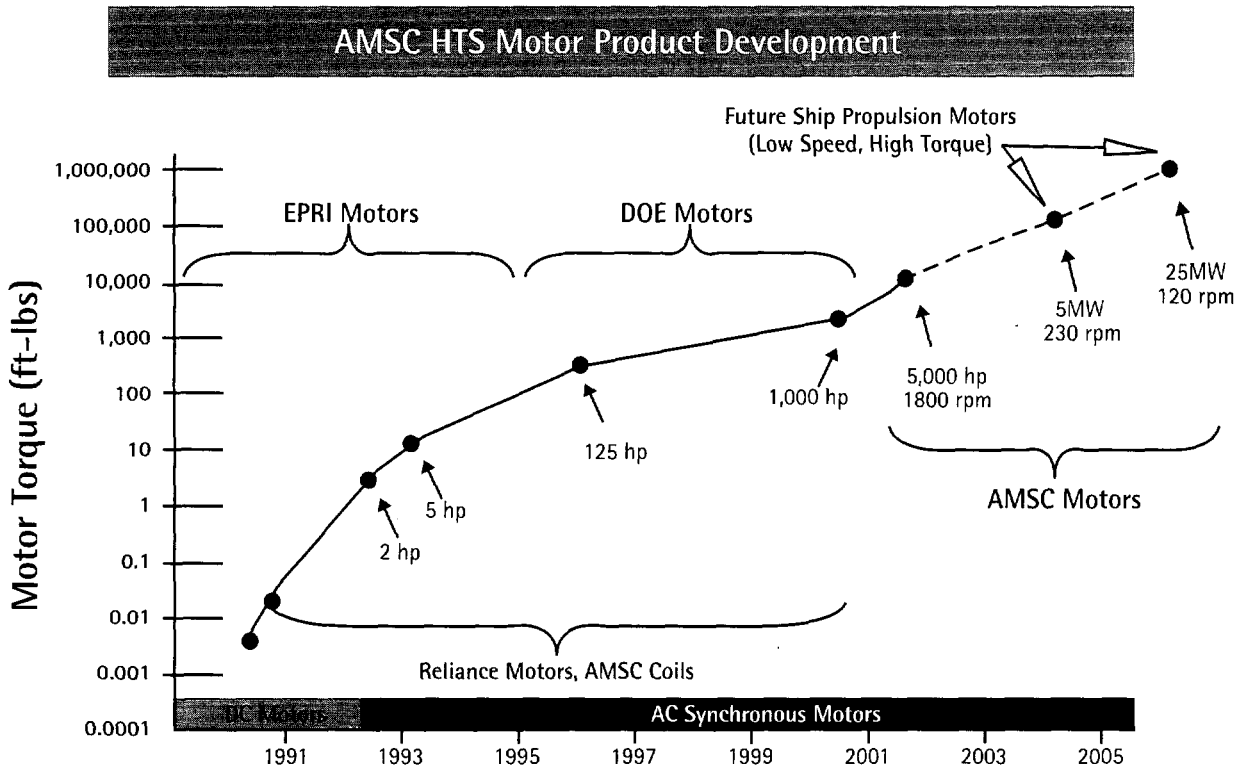


The HTS rotor coils in our superconductor rotating machines are cooled using a mechanical refrigerator, which is located next to the motor and which provides cooling down the shaft of the motor by techniques that we have patented. We are currently utilizing commercially available refrigerators; however, we are also developing new refrigeration systems that we believe could further reduce the cost of cryogenic cooling.

The cooling systems used for HTS motors and generators are closed loop, meaning that the cooling medium, typically a gas, circulates inside a closed system from the region of the HTS coils on the rotor, where the cooling medium picks up heat, to the cold head of the refrigerator, where the cooling medium gives up its heat and is chilled again. The cooling media we typically use are liquid neon and gaseous helium. In the case of our neon systems, the liquid neon absorbs heat by turning into a gas, which is condensed back to liquid at the cold head outside the motor or generator – much like a Freon cycle in home refrigerators. In the case of gaseous helium, no liquid phase is involved. The temperature of operation of HTS motors and generators that use the neon cycle is 27 degrees Kelvin (minus 411 degrees Fahrenheit). When gaseous helium is used, the temperature of operation is typically higher, in the range of 30 to 40 degrees Kelvin (minus 405 to 387 Fahrenheit).

Our AC synchronous motors and generators have a higher net efficiency than conventional machines of the same power rating, including the losses associated with the cooling system. The stator coils in our AC synchronous machines utilize copper windings, which are cooled either with air, oil or water, similar to conventional motors and generators.

Our Electric Motors and Generators business unit is experienced in HTS rotating machine design, development and testing, and has built a significant portfolio of intellectual property, much of which is protected by 107 patents and patents pending worldwide as of March 31, 2002. We believe that we are well positioned to transform a 100-year-old motor and generator industry with our innovative HTS motor technology. Our history of involvement in the development of HTS rotating machines is shown in the following figure:



In July 2001, we completed the assembly and factory test of a 5,000 hp, 1800 rpm HTS motor that we engineered to validate our design of the HTS rotor field windings, the high efficiency refrigeration system, and the fresh-water-cooled stator technology. During subsequent full-load tests, the motor successfully achieved a steady-state output of 5,900 hp, and attained a peak rating of 7,000 hp.

During the last two years, we have shifted our business development and engineering efforts from industrial motors and generators to ship propulsion motors and generators. Our HTS rotating machines, with their extraordinary power density and high efficiency, are very well suited to meet the needs of commercial and military ships and submarines.

The market for electric motors and generators for ship propulsion is already established for commercial cruise and cargo ships. However, the U.S. Navy decided in January 2000 to develop warships that utilize electric drives. This has provided us with an opportunity to market our technology to the U.S. Navy to meet their needs for high power density electric motors and generators while providing us funds to help offset our development costs of HTS ship propulsion motors and generators.

In February 2002, The U.S. Navy's Office of Naval Research awarded us a contract valued at $8 million for the delivery by July 2003 of a 5MW, 230 rpm ship propulsion motor, with the necessary power electronic drive. This is the fourth contract in a series of awards since 1999 for the conceptual and preliminary design of HTS ship propulsion motors and the development of key components for such motors. We expect that the motor will be tested initially at a Navy land-based test facility in mid-2003, followed by more extensive testing at-sea. We believe there will be additional contract opportunities with the U.S. Navy for HTS electric motors and generators, which we plan to pursue.

As our efforts to commercialize HTS rotating machines continue, new applications are being brought forward by end users and systems designers who seek to improve their products by integrating HTS rotating machines into their systems. We will evaluate these opportunities as they arise, and incorporate the most promising ones into our commercialization strategy. One of these new applications may involve the use of our HTS AC synchronous motor and generator designs to create HTS synchronous condensers. These devices are capable of generating or absorbing reactive power at critical locations on a power grid to provide higher levels of power reliability.

Manufacturing, Sales and Marketing for HTS Motors and Generators: Our Electric Motors and Generators business currently operates out of 27,000 square feet of space located in Westborough, MA. About one-third of this space is devoted to offices and machine design. The balance is dedicated to coil development, manufacture and test, exciter development, assembly and test, and motor assembly and test. Our first 5,000-hp, 1,800 rpm motor was built and factory tested in this site during the last fiscal year.

We outsource the manufacture of copper-based stator coils, which we use in our HTS motors, to manufacturers of conventional motors. We also outsource most of the other major components that are used in our HTS motors. We assembled and factory tested the 5,000-hp, 1,800 rpm motor in our facility in 2001; however, we later outsourced the full-load testing of this motor. It is also our intention to outsource the assembly and test of the 5MW, 230 rpm ship propulsion motor we are currently under contract from the U.S. Navy to build and demonstrate. We will manufacture the HTS coils, the cryogenically cooled rotor and the cryogenic cooling system for this motor.

Our plan for future manufacturing, sales and marketing of HTS rotating machines is to form a business alliance with one or more motor manufacturers. We believe this approach has the advantage of providing us with a more effective and quicker path to manufacture motors and generators and will provide us with an established sales and distribution channel and an experienced sales team. We also believe this approach has the advantage of speeding up market adoption of our new HTS rotating machines. If we are successful in establishing such a business alliance, we intend to sell HTS wire to that business.

Competition for HTS Motors and Generators: We face competition for our high-power HTS motors and generators from companies that manufacture traditional motors and generators made with copper wires including; GE Industrial Systems, Siemens, ABB, Alstom Power Conversion, Ideal Electric Holding Company, Brush Industries and Hitachi.

We also face competition from manufacturers of permanent magnet motors, which have been under development over the last decade. Permanent magnet motors are being considered by the U.S. Navy for electric drives. Companies who are developing high-power permanent magnet motors include General Dynamics and Newport News Shipbuilding. There are also at least two companies, Rockwell Automation and Siemens, who are developing HTS electric motors and who have demonstrated HTS motors over the last several years.

Many of our competitors have substantially greater financial resources, research and development, manufacturing and marketing capabilities than we do. In addition, as the HTS motor and generator markets develop, other large industrial companies may enter these fields and compete with us.

Power Electronic Systems Business

In March 2002, we combined our Power Quality and Reliability business unit with our Power Electronics business unit. The new business unit is called Power Electronic Systems.

Our Power Electronic Systems business unit designs, develops, assembles and tests power electronic converters that rapidly switch, control, and modulate power. This business unit is responsible for product development, marketing and sales of a proprietary power electronic converter, which we call the PowerModule™. The PowerModule is based on a printed circuit board design that combines state-of-the-art IGBT and advanced power electronics design techniques and control algorithms with an embedded controller. These design features give the PowerModule the flexibility to be easily configured for any one of a number of power conversion functions, including active rectification, DC-conversion, inversion (or AC-conversion), motor control, harmonics cancellation, regenerative-braking and bi-directional power flow. PowerModules are designed to work at voltage levels up to 1,250 volts DC and 770 volts AC.

The flexibility and scalability of our PowerModule, and its high power density, are two important features of the product. We believe that the PowerModule design will allow us to achieve our goal of reducing the costs of power electronic converters at power levels above 60kW, thereby giving us a very competitive position in the market for power converters.

We utilize state-of-the-art IGBTs operating in the 300 to 6,500 volts DC range and at switching frequencies up to 20,000 hertz in our power converter products. We are investigating the use of new silicon carbide semiconductor devices for applications requiring higher frequency.

In our PowerModules, IGBTs are integrated onto PCBs which are made of insulating and conductive materials, and which form a critical building block of our power electronic converter products. PowerModules contain many other active and passive electronic devices, such as integrated circuits, transistors, inductors, capacitors and resistors. Various makes and designs of the active and passive components are available on the market and choices are made by us to optimize performance and minimize cost in selecting both active and passive devices for incorporation into PowerModules.

Because we use a PCB design for our power converters, we are able to integrate a microprocessor and DSP into our product, making the control of our PowerModules programmable. The control system includes modular software control algorithms that are easily installed. This programmability provides for a flexible, modular platform that can be used as a basic building block for a wide range of applications including wind turbines, motor drives, power supplies, voltage regulators, fuel cells, microturbines, photovoltaics and uninterruptible power supplies. The programmability of the embedded controllers also allows ease-of-configuration for end users to customize their power converters to meet their precise application requirements to optimize their specific performance characteristics.

A unique feature of our PowerModule is the ability to use a standard building block to create power converter systems up to 8 MVAR. This is accomplished by synchronizing and communicating between converters using high speed fiber optic links where individual PowerModules, or integrated stacks of PowerModules, can be programmed to meet the needs of different customers to control and condition varying levels of power from tens of kilowatts to megawatts in a wide range of end use applications. High speed fiber optics provide the standard communication link between the PowerModules and the system controller or other remote devices. Fiber optic communication also provides high noise immunity and enhances the unit's reliability.

In addition to PowerModule hardware, our Power Electronic Systems business unit develops software for the PowerModules and for systems that use our PowerModules such as our system integrated solutions to enhance power quality and reliability.

Our primary commercial PowerModule product today, the PM250, has a power rating of 250 kW and it is the power converter we currently use in our commercial superconductor magnetic energy storage (SMES) and dynamic VAR (D-VAR™) product lines. Today, several hundred PowerModule units which are incorporated in our fully-integrated power reliability product line, are directly tied into power grids in the U.S. They are also being used in our fully-integrated industrial power quality product line.

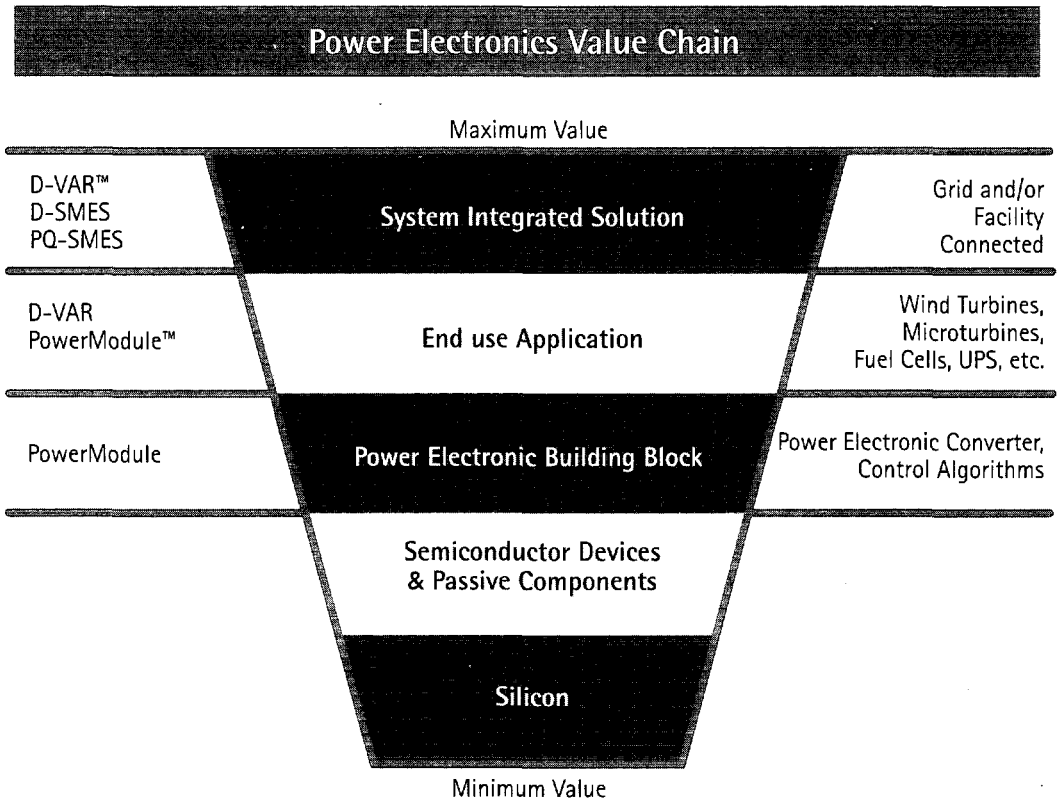
We are currently developing our next generation of PowerModules, which we call the PowerModule 1000, or the PM1000. The PM1000 power converter family features a scalable, modular and flexible design architecture. It is an intelligent and fully integrated power converter that includes a compact package design that yields a very high power density of up to 130 Watts/cubic inch. Features of this design include:

- State-of -the-art IGBT technology;
- Scalable design;
- Flexible architecture; and
- High power density.

We are currently entering the testing phase of the PM1000 product development program. Much of this work is now being supported by a development contract from the U.S. Navy's Office of Naval Research (ONR) we received from them in March 2002. Under its Advanced Electric Power Systems thrust, ONR is developing architectures for PEBBs for intelligent, reconfigurable systems. We expect to develop low and medium voltage converters based on the PowerModule technology for ship propulsion and other electrical components that will be required for the future all-electric Navy. Power converters are expected to be key components in the integrated power architecture operating for example between the shipboard generators and propulsion motors.

We currently expect our sales and marketing efforts for the PM1000 to begin after the testing of prototypes is completed towards the end of 2002. With our highly differentiable power electronic converter product, we believe we are well positioned to develop a leadership position in the marketplace for advanced power electronics for power conversion in the 60 to 1,000 kW range.

The following chart depicts a range of power electronic products from base level components to fully integrated power electronic systems. Our Power Electronic Systems business unit develops, markets and sells products that provide customer benefits across a wide spectrum of the power electronics value chain beginning with the PowerModule as the power electronic building block. We offer OEM customers a scalable and programmable power conversion platform to which they can create unique added value for their specific end use applications, such as wind turbines and fuel cells. We also offer fully-integrated power quality and reliability systems for transmission grids and industrial sites.



Integrated Power Quality and Reliability Solutions:

Our power quality and reliability solutions are used in a variety of utility and industrial applications. The systems are based on our PowerModules and may be integrated with SMES systems:

PQ-SMES

Power Quality SMES (PQ-SMES) systems protect industrial power users from the adverse effects of momentary voltage drops. Our SMES products use proprietary electromagnets made with LTS wire combined with our PowerModules. We have also incorporated HTS wire, rather than copper wire, into the SMES products to carry power in and out of the LTS storage coils, significantly reducing manufacturing and operating costs. PQ-SMES systems provide "high nines" power or "very high quality power" at industrial and commercial sites. A major target customer for PQ-SMES systems is semiconductor manufacturers because they understand the impact of voltage sags on productivity and the resulting high cost of downtime.

D-DMES

Distributed SMES (D-SMES) systems protect transmission grids by stabilizing voltage in power networks, simultaneously injecting large amounts of reactive power from the PowerModules and real power from the

superconducting magnet to restore the voltage to normal levels. D-SMES systems enable operators to increase power flow through existing transmission lines, significantly increasing grid asset utilization. D-SMES systems are also a cost-effective and readily deployable solution. Given these factors and the current federal emphasis on increasing transmission capacity and reducing related regulatory hurdles, we expect demand for D-SMES systems by utilities and transmission companies to grow as investment in grid infrastructure increases and as regulatory barriers fall.

D-VAR

Dynamic VAR, or D-VAR, is a product that offers a powerful yet cost-effective way of regulating voltage levels by injecting reactive power (VARs) into the grid at precise locations where voltage problems can occur. A D-VAR system is based on our proprietary PowerModules. The primary difference between D-VAR and D-SMES is that a D-VAR system does not contain a superconducting energy storage device. The D-VAR product was formally announced in May 2002, coinciding with the receipt of an order from PacifiCorp where the D-VAR system will be utilized to optimally regulate transmission voltage at a wind farm in Wyoming.

Transmission Planning Capabilities: Our Power Electronic Systems business unit includes a seasoned group of six transmission planners. This group, with well over 100 years of transmission planning expertise, has in-depth knowledge of the design and structure of transmission and distribution grids. Our Transmission Planning group uses sophisticated software programs to perform analyses of the effects of disturbances in power grids to determine grid reliability under normal and peak loading conditions. This group analyzes the effects of the incorporation of standard technologies such as capacitors and static VAR compensators and advanced technologies such as HTS cables, D-SMES, D-VAR and HTS synchronous condensers into power grids. Our transmission planning group plays a significant role in the sales and marketing of products from each of our business units.

Manufacturing of Power Electronic Systems: Our Power Electronic Systems business unit operates out of facilities in New Berlin and Middleton, Wisconsin. In New Berlin, we design, develop and test our PowerModule power electronic converters in a state-of-the-art 50,000 square foot facility. We outsource the manufacture of PowerModules allowing us to focus on our core competency of design and final test of PoweModule systems. In our Middleton 33,000-square-foot facility, we assemble and test components and PowerModules for incorporation into our integrated power electronic systems such as SMES and D-VAR. We outsource the manufacture of the superconductor magnets used in SMES, thereby allowing us to focus on our core competency of integrating components for our commercial power quality and reliability systems.

Sales and Marketing of Power Electronic Systems: In April 2000, we formed a strategic marketing and sales alliance with GE Industrial Systems to bring co-branded power quality and reliability products to market. While GE is our exclusive channel to market for power reliability solutions to North American utilities, they also represent a significant channel to certain GE global industrial accounts. We believe that GE is a strong market channel for these products, and we expect the alliance to help drive new business opportunities. Outside of the U.S. and separate from our GE alliance, we market our power quality and reliability solutions directly to utility and industrial customers, leveraging when possible our strategic relationships, such as with Electricité de France, to further expand our sales coverage. While our sales and marketing efforts in the past have been primarily focused on North America and Europe, we are currently looking to identify channel partners in other parts of the world, such as Asia.

We expect to market and sell directly to OEM manufacturers of power electronic systems when our next generation PowerModule product is ready for commercial sale later this year.

Competition for Power Electronic Systems: We face competition from other companies selling power reliability products, such as SVCs and STATCOMS produced by ABB and Mitsubishi Electric, dynamic voltage restorers produced by companies such as S&C Electric and ABB, and flywheels and battery-based UPS systems offered by various companies around the world. We do not know of any companies currently developing or selling commercial SMES products; however, there are at least two organizations developing SMES products, a government-sponsored program in Japan and ACCEL Instruments GmbH in Germany.

We face competition from companies that are developing power electronic converters for use in applications that we expect to compete with our PowerModule products. These companies include Ecostar, Inverpower, SatCon, Semikron and Trace, part of Xantrex.

Many of our competitors have substantially greater financial resources, research and development, manufacturing and marketing capabilities than we do. In addition, as the power quality and reliability markets develop, other large industrial companies may enter these fields and compete with us.

Patents, Licenses and Trade Secrets

HTS Patent Background

Since the discovery of high temperature superconductors in 1986, the HTS industry has been characterized by rapid technical advances, which in turn have resulted in a large number of patents, including overlapping patents, relating to superconductivity being applied for and granted worldwide. As a result, the patent situation in the field of HTS technology and products is unusually complex.

An important part of our business strategy is to develop a strong patent position in all of our technology areas. Our patent portfolio comprises both patents we own and patents we license from others. We devote substantial resources to building a strong patent position and we believe that we have significantly strengthened our position in the past several years. As of March 31, 2002, we owned (either alone or jointly) over 95 U.S. patents—as compared to over 75 as of March 31, 2001—and had over 110 U.S. patent applications (jointly or solely owned) on file. We also hold licenses from third parties covering over 60 issued U.S. patents and 20 U.S. patent applications. Together with the international counterparts of each of these patents, patent applications and licenses, we own 440 patents and patent applications worldwide, and have rights through exclusive and non-exclusive licenses to more than 165 additional patents and patent applications. We believe that our current patent position, together with our expected ability to obtain licenses from other parties to the extent necessary, will provide us with sufficient proprietary rights to develop and sell our products. However, for the reasons described below, there can be no assurance that this will be the case.

Despite the strength of our patent position, a number of U.S. and foreign patents and patent applications of third parties relate to our current products, to products we are currently developing, or to technology we are now using in the development or production of our products. We may need to acquire licenses to those patents, or to successfully contest the scope or validity of those patents, or to design around patented processes or applications.

If companies holding patents or patent applications that we need to license are competitors, we believe the strength of our patent portfolio will significantly improve our ability to enter into license or cross-license arrangements with these companies. However, there can be no assurance that we will be able to obtain all necessary licenses from competitors on commercially reasonable terms, or at all.

We may be required to obtain licenses to some patents and patent applications held by companies or other institutions, such as national laboratories or universities, not directly competing with us. Those organizations may not be interested in cross-licensing or, if willing to grant licenses, may charge unreasonable royalties. We have successfully obtained licenses from a number of such organizations, including Lucent Technologies, Superlink of New Zealand, Oak Ridge National Laboratory, MIT, and Toshiba in Japan, with royalties we consider reasonable. Based on past experience, we expect that we will be able to obtain other necessary licenses on commercially reasonable terms. However, there can be no assurance that we will be able to do so.

Failure to obtain all necessary licenses upon reasonable terms could significantly reduce the scope of our business and have a materially adverse effect on our results of operations. We do not now know the likelihood of successfully contesting the scope or validity of patents held by others. In any event, we could incur substantial costs in challenging the patents of other companies. Moreover, the nature of HTS patents is such that third parties

are likely to challenge some of our patents or patent applications, and we could incur substantial costs in defending the scope and validity of our own patents or patent applications whether or not a challenge is ultimately successful.

Choice of HTS Materials

At any given time, we will have a preference for using one or a few specific HTS materials in the production of our products. Any HTS material we use is likely to be covered by one or more patents or patent applications held by other parties.

We have obtained licenses to patents and patent applications covering some HTS materials, including an exclusive license from Superlink and non-exclusive licenses from Lucent Technologies and Toshiba. However, we may have to obtain additional licenses to HTS materials.

HTS Wire Processing and Wire Architecture

We are concentrating on two main methods for processing HTS materials into wire. One produces multi-filamentary composite wire and the other produces coated conductor composite wire. Our strategy is to obtain a proprietary position in each of these methodologies through a combination of patents, licenses and proprietary know-how. If alternative processes become more promising in the future, we will also seek to develop a proprietary position in these alternative processes.

We have filed a number of patent applications that are applicable to multi-filamentary and coated conductor composite wire architectures. Some of these applications have been issued as patents in the United States and abroad, while others are pending. We have acquired an exclusive license from MIT and a non-exclusive license from Oak Ridge National Laboratories to intellectual property relating to coated conductors, and a non-exclusive license from Lucent Technologies and Toshiba relating to multi-filamentary composite wire. We have acquired certain intellectual property rights in the coated conductor area through our collaboration with the Electric Power Research Institute (EPRI).

We have an exclusive license from MIT under an issued U.S. patent that covers the architecture of multi-filamentary composite wire, specifically the composite of HTS ceramics and noble metals such as silver. The scope of this patent was the subject of an action in the U.S. District Court of Massachusetts. The Court has ruled in our favor, but the time for appeal has not yet expired. We also filed for patents on laminate structures for this wire and on new architectures for coated conductor wire.

A number of other companies have also filed patent applications, and in some instances these have become issued patents, on various aspects of wire processing and wire architecture. To the extent that any of these issued or pending patents might cover the wire processing methodologies or wire architectures we use, we may be required to obtain licenses under those patents; however, there is no assurance that we will be able to do so.

HTS Component and Subsystem Fabrication Patents; HTS Application Patents

We have received several patents and filed a significant number of additional patent applications regarding:

- The design and fabrication of electromagnetic coils and electromagnets;
- The integration of these products with an appropriate coolant or cryocooler;
- The application of these products to specific end uses; and
- The design of HTS motors and generators.

Since the HTS motor and generator field is relatively new, we believe we are building a particularly strong patent position in this area. A number of other companies have also filed, and in some instances have received, patents on various applications of HTS wire and component and subsystem fabrication methods. If any existing or future patents cover any of these aspects of our operations, we may be required to obtain licenses under those patents.

Power Electronic Systems

We have received several patents and filed a significant number of additional patent applications on power quality and reliability systems, including the D-SMES concept. We have acquired a non-exclusive license from Argonne National Laboratory on a cryogenic connector for SMES applications. We believe we have a strong patent position in the SMES area and we are studying whether any third party patents apply to our technology. We have also filed a series of patents on our proprietary power electronic modules.

Trade Secrets

Some of the important technology used in our operations and products is not covered by any patent or patent application owned by or licensed to us. However, we take steps to maintain the confidentiality of this technology by requiring all employees and all consultants to sign confidentiality agreements and by limiting access to confidential information. However, no assurance can be given that these measures will prevent the unauthorized disclosure or use of that information. In addition, there is no assurance that others, including our competitors, will not independently develop the same or comparable technology.

Employees

As of March 31, 2002, we employed a total of 340 persons, 35 of whom have Ph.D.'s in materials science, physics or related fields. None of our employees are represented by a labor union. On March 26, 2002, we implemented a restructuring, consolidation and cost-savings program which resulted in a reduction-in-force of 99 employees, 10 of whom were still employed by the Company as of March 31, 2002. Retaining our key employees is important for achieving our goals and we are committed to developing a working environment that motivates and rewards our employees. At the present time, we believe that we have good relations with our employees.

Item 2. *Properties*

We operate out of two facilities in Westborough, Massachusetts with a combined total of approximately 129,000 square feet of space. The 2 Technology Drive facility in Westborough is under a lease that expires on May 31, 2009. The 121 Flanders Road facility is under a lease that expires on September 30, 2005.

On December 7, 2001, we completed construction and took occupancy of our company-owned 355,000 square foot HTS manufacturing facility located at the Devens Commerce Center in Devens, Massachusetts.

We also operate out of facilities located in Middleton and New Berlin, Wisconsin with a combined total of approximately 110,000 square feet of space. The Middleton, Wisconsin facility comprises approximately 60,000 square feet of space in two buildings with leases that expire on December 31, 2003. The New Berlin, Wisconsin facility comprises approximately 50,000 square feet of space under a lease that expires on September 30, 2011.

As part of the restructuring, consolidation and cost cutting measures that we announced in March 2002, we decided to outsource our future requirements for LTS magnets used in our SMES systems and as a result we have discontinued operations in one of our two buildings in Middleton, Wisconsin comprising approximately 27,000 square feet.

Item 3. *Legal Proceedings*

We are not involved in any legal proceedings other than routine litigation incidental to our business that we do not consider material.

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

No matters were submitted to a vote of the Company's security-holders during the fourth quarter of the fiscal year ended March 31, 2002.

MANAGEMENT

The tables and biographical summaries set forth below contain certain information with respect to our executive officers:

Name	Age	Position
Gregory J. Yurek	55	President, Chief Executive Officer and Chairman of the Board of Directors
Stanley D. Piekos	54	Senior Vice President, Corporate Development, Chief Financial Officer, Secretary and Treasurer
Alexis P. Malozemoff	58	Senior Vice President and Chief Technical Officer
Thomas M. Rosa	49	Chief Accounting Officer, Corporate Controller and Assistant Secretary
Charles W. Stankiewicz	43	Vice President and General Manager, Power Electronic Systems Business Unit
Eric E. Snitgen	47	Vice President and General Manager, HTS Wire Business Unit
David Paratore	34	Vice President and General Manager, Electric Motors and Generators Business Unit
Ross S. Gibson	43	Vice President and Chief Administrative Officer
Jeffrey J. Nestel-Patt	52	Vice President, Corporate Communications

Gregory J. Yurek co-founded American Superconductor in 1987 and has been President since March 1989, Chief Executive Officer since December 1989 and Chairman of the Board of Directors since October 1991. Dr. Yurek also served as Vice President and Chief Technical Officer from August 1988 until March 1989 and as Chief Operating Officer from March 1989 until December 1989. Prior to joining American Superconductor, Dr. Yurek was a Professor of Materials Science and Engineering at MIT for 13 years. Dr. Yurek has been a director of American Superconductor since 1987.

Stanley D. Piekos joined American Superconductor in February 1998 as Chief Financial Officer, Vice President, Corporate Development, Secretary and Treasurer, and was elected Senior Vice President in July 2000. From June 1994 until February 1998, Mr. Piekos served as Vice President and Chief Financial Officer of Brooks Automation, Inc., a supplier of robotics and controls to the semiconductor production equipment industry. For the nine years prior to June 1994, Mr. Piekos was employed by Helix Technology Corporation, a manufacturer of cryogenic equipment, most recently as Vice President and Chief Financial Officer. During his first fifteen years in business, Mr. Piekos held a variety of positions in financial management and marketing with W.R. Grace & Co., a global manufacturer of specialty chemicals and industrial equipment.

Alexis P. Malozemoff joined American Superconductor as Vice President, Research and Development in January 1991 and was elected our Chief Technical Officer in January 1993 and Senior Vice President in May 1998. Prior to joining American Superconductor, Dr. Malozemoff spent 19 years at IBM in a variety of research and management positions, most recently as IBM Research Coordinator for High Temperature Superconductivity.

Thomas M. Rosa joined American Superconductor in October 1992 as Corporate Controller and was elected our Chief Accounting Officer and Assistant Secretary in July 1998. Prior to joining American Superconductor, Mr. Rosa spent 10 years in a variety of financial management positions at Prime Computer, Wang Laboratories and Lockheed Sanders, most recently as Division Controller at Prime Computer.

Charles W. Stankiewicz joined American Superconductor in July 1998 as General Manager of the Company's SMES Business Unit, based in Madison, Wisconsin. In March 2002, Mr. Stankiewicz was appointed to his current position as General Manager of the Power Electronic Systems business unit. Prior to joining American Superconductor, Mr. Stankiewicz held senior positions for 10 years at ABB, a Swiss industrial conglomerate. From 1980 to 1988, Mr. Stankiewicz was with Westinghouse Electric as a regional service manager and special sales representative for the power generation business, focused on major electric utilities.

Eric E. Snitgen joined American Superconductor in November 2000 as General Manager of the Company's HTS Wires Business Unit. Previously, Mr. Snitgen held increasingly senior positions with Hendrix Wire and Cable in Milford, New Hampshire. Prior to Hendrix, Mr. Snitgen spent ten years at Cooper Power Systems in Waukesha, Wisconsin in a variety of product and market management roles.

David Paratore joined American Superconductor in November 2000 as Vice President, Strategic Business Development. In March 2002, Mr. Paratore was appointed to his current position as Vice President and General Manager, Electric Motors and Generators Business Unit. Previously, Mr. Paratore was an Account Executive for GROWTTH® Consulting where he provided operations, distribution and new product introduction consulting services to leading companies in the consumer product and industrial manufacturing industries. Prior to GROWTTH, Mr. Paratore held increasingly senior positions with Pratt & Whitney, a division of United Technologies Corp, most recently as the General Manager responsible for the startup of the V2500 aircraft engine overhaul facility.

Ross S. Gibson joined American Superconductor in July of 1997. He is responsible for the strategic direction of corporate human resources, information services, corporate governance and general administration. Previously, Mr. Gibson was Vice President, Human Resources and Administration, Chief Administrative Officer for Cambridge NeuroScience, Inc., a development stage biotechnology company. During his 18 years in human resources and services, he also held positions at Lifeline Systems, Lotus Development and General Motors.

Jeffrey J. Nestel-Patt joined American Superconductor in July 2001 to lead the company's communications efforts and help to establish the company's worldwide brand. Previously, Mr. Nestel-Patt was director, corporate communications at PRI Automation, now Brooks/PRI Automation, an automation systems and software supplier to the semiconductor industry. Prior to PRI, Mr. Nestel-Patt worked at Gandalf Systems and Digital Equipment Corporation (DEC). During his 12 years at DEC, Mr. Nestel-Patt served in a variety of roles in both corporate communications and product marketing.

PART II

Item 5. *Market for Registrant's Common Stock and Related Stockholder Matters*

The Company's Common Stock has been quoted on the Nasdaq National Market under the symbol "AMSC" since 1991. The following table sets forth the high and low price per share of the Company's Common Stock as reported on the Nasdaq National Market for the two most recent fiscal years:

	Common Stock Price	
	High	Low
Fiscal year ended March 31, 2001:		
First quarter	51.00	19.63
Second quarter	61.88	30.38
Third quarter	55.94	22.50
Fourth quarter	34.88	13.25
Fiscal year ended March 31, 2002:		
First quarter	27.90	10.75
Second quarter	24.50	8.35
Third quarter	14.00	8.65
Fourth quarter	13.58	6.50

The number of shareholders of record on June 7, 2002 was 671.

The Company has never declared or paid any cash dividends on its Common Stock. The Company currently anticipates that it will retain all future earnings, if any, to fund the development and growth of its business and does not anticipate paying any cash dividends on its Common Stock in the foreseeable future.

Item 6. *Selected Financial Data*

The selected consolidated financial data presented below for the fiscal years ended March 31, 2002, 2001, 2000, 1999 and 1998 have been derived from our consolidated financial statements that have been audited by PricewaterhouseCoopers LLP, independent accountants. This financial data should be read in conjunction with the Consolidated Financial Statements and the Notes thereto and the other financial information appearing elsewhere in this Annual Report on for 10-K.

	Year ended March 31, 2002				
	2002	2001	2000	1999	1998
	(In thousands, except per share data)				
Revenues	11,650	16,768	15,113	11,257	15,129
Net loss	(56,985)	(21,676)	(17,598)	(15,326)	(12,378)
Net loss per share	(2.79)	(1.08)	(1.11)	(1.01)	(1.06)
Total assets	197,795	239,927	248,914	48,130	19,551
Working capital	36,834	108,808	135,681	30,459	5,059
Cash, cash equivalents and long–term marketable securities	68,200	160,225	218,655	31,572	8,009
Stockholders' equity	172,166	227,564	240,944	43,958	12,859

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

The information required by this Item is attached as *Appendix A* hereto and is incorporated herein by reference.

Item 7A. *Quantitative and Qualitative Disclosures About Market Risk*

The Company's exposure to market risk through derivative financial instruments and other financial instruments, such as investments in short-term marketable securities and long-term debt, is not material.

Item 8. ***Financial Statements and Supplementary Data***

All financial statements required to be filed hereunder are filed as *Appendix B* hereto, are listed under Item 14(a), and are incorporated herein by reference.

Item 9. ***Changes in and Disagreements with Accountants on Accounting and Financial Disclosure***

Not Applicable.

PART III

Item 10. *Directors and Executive Officers of the Registrant*

The response to this item is contained in part under the caption "Executive Officers of the Company" in Part I of this Annual Report on Form 10-K, and in part in the Company's Proxy Statement for the Annual Meeting of Stockholders for the fiscal year ended March 31, 2002 (the "2002 Proxy Statement") in the sections "Election of Directors—Nominees," and "Section 16 Beneficial Ownership Reporting Compliance," which sections are incorporated herein by reference.

Item 11. *Executive Compensation*

The response to this item is contained in the 2002 Proxy Statement in the sections "—Executive Compensation," "—Employment Agreements with Senior Executives," and "—Compensation Committee Interlocks and Insider Participation," which sections are incorporated herein by reference.

Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*

The response to this item is contained in the 2002 Proxy Statement in the sections "Beneficial Ownership of Common Stock" and "Equity Compensation Plan Information," which sections are incorporated herein by reference.

Item 13. *Certain Relationships and Related Transactions*

Not Applicable.

PART IV

Item 14. ***Exhibits, Financial Statement Schedules, and Reports on Form 8-K***

(a) The following documents are filed as *Appendix B* hereto and are included as part of this Annual Report on Form 10-K:

Financial Statements:

Report of Independent Accountants
Consolidated Balance Sheets
Consolidated Statements of Operations
Consolidated Statements of Comprehensive Loss
Consolidated Statements of Cash Flows
Consolidated Statements of Changes in Stockholders' Equity
Notes to Consolidated Financial Statements

The Company is not filing any financial statement schedules as part of this Annual Report on Form 10-K because they are not applicable or the required information is included in the financial statements or notes thereto.

(b) *Reports on Form 8-K*

No reports on Form 8-K were filed during the last quarter of the Company's fiscal year ended March 31, 2002.

(c) The list of Exhibits filed as a part of this Annual Report on Form 10–K is set forth on the Exhibit Index immediately preceding such Exhibits, and is incorporated herein by reference.

AMERICAN SUPERCONDUCTOR CORPORATION

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

American Superconductor Corporation was founded in 1987. We are focused on developing, manufacturing and selling products using two core technologies: high temperature superconductor ("HTS") wires and power electronic converters for electric power applications. We also assemble superconductor wires and power electronic converters into fully-integrated products, such as superconductor magnetic energy storage ("SMES") systems and ship propulsion motors, which we sell or plan to sell to end users.

Critical Accounting Policies

The preparation of consolidated financial statements requires that we make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, we evaluate our estimates, including those related to long-term production and research and development contracts, accounts receivable reserve requirements, inventories, investments, intangible assets, income taxes and potential warranty obligations. We base our estimates on historical experiences and various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ under different assumptions or conditions.

Our accounting policies that involve the most significant judgments and estimates are as follows:

- Revenue recognition;
- Allowance for doubtful accounts;
- Valuation of long-lived and intangible assets and goodwill;
- Inventory accounting;
- Deferred tax assets; and
- Acquisition accounting.

Revenue recognition. For certain arrangements, for example on contracts to perform research and development and on prototype development contracts, we record revenues using the percentage of completion method, measured by the relationship of costs incurred to total estimated contract costs. We follow this method since reasonably dependable estimates of the revenue and costs applicable to various stages of a contract can be made. Since many contracts extend over a long period of time, revisions in cost and funding estimates during the progress of work have the effect of adjusting earnings applicable to performance in prior periods in the current period. Recognized revenues and profit are subject to revisions as the contract progresses to completion. Revisions in profit estimates are charged to income in the period in which the facts that give rise to the revision become known.

We recognize revenue from product sales upon shipment, installation or acceptance, where applicable, provided persuasive evidence of an arrangement exists, delivery has occurred, the sales price is fixed or determinable and collectibility is reasonably assured, or for some programs, on the percentage of completion method of accounting. When other significant obligations remain after products are delivered, revenue is recognized only after such obligations are fulfilled.

Allowance for doubtful accounts. If the financial condition of our customers were to deteriorate, resulting in an impairment of their ability to make payments, additional provisions for bad debt allowances may be required.

Long-lived assets. We assess the impairment of identifiable intangibles, long-lived assets and goodwill whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors we consider important which could trigger an impairment review include the following:

- Significant underperformance relative to expected historical or projected future operating results;
- Significant changes in the manner of our use of the acquired assets or the strategy for our overall business; and
- Significant negative industry or economic trends.

When we determine that the carrying value of intangibles, long-lived assets or goodwill may not be recoverable based upon the existence of one or more of the above indicators of potential impairment, we assess whether an impairment has occurred based on whether net book value of the assets exceeds related projected undiscounted cash flows from these assets, considering a number of factors including past operating results, budgets, economic projections and market trends. When necessary, we write down an impaired asset to its estimated fair value based on the best information available. Estimated fair value is generally based on either appraised value or measured by discounting estimated future cash flows. Considerable management judgment is necessary to estimate discounted future cash flows.

Inventory accounting. We write down inventory for estimated obsolescence or unmarketable inventory equal to the difference between the cost of the inventory and the estimated realizable value based upon assumptions of future demand and market conditions. If actual market conditions are less favorable than those projected, additional inventory write-downs may be required.

Deferred tax assets. We record a valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. While we consider future taxable income and tax planning strategies in assessing the need for the valuation allowance, if management were to determine that we would be able to realize deferred tax assets in the future in excess of the net recorded amount, an adjustment to the deferred tax asset would increase income in the period such determination was made. Likewise, should we determine that we would not be able to realize all or part of our net deferred tax assets in the future, an adjustment to the deferred tax asset would decrease income in the period such determination was made.

Acquisition accounting. In June 2000, we acquired substantially all of the assets of Integrated Electronics, LLC ("IE"). The IE acquisition was accounted for under the purchase method of accounting. Goodwill of $1,329,282 represented the excess of the purchase price of $1,833,125 over the fair value of the acquired assets of $503,843 at June 1, 2000. The fair value of the assets acquired were accounts receivable of $52,278, inventory of $259,980 and fixed assets of $191,585. Significant judgments and estimates are involved in determining the fair market value of assets acquired and their useful lives. Different assumptions could yield materially different results.

Restructuring

In March 2002, we announced a series of restructuring, consolidation and cost-cutting measures to create a more streamlined and flatter organization aimed at reducing our cost structure as we drive to commercialize our technologies and products. The restructuring resulted in the reduction of 99 full-time employees across all business functions at our Massachusetts and Wisconsin locations. Our Power Quality and Reliability business unit, based in Middleton, WI, and Power Electronics business unit, based in New Berlin, WI, were combined into a new business unit called Power Electronic Systems. This change leveraged personnel with similar skills in the two business units and significantly reduced the cost structure. As part of the restructuring, we also announced that we will outsource our future requirements for low temperature superconductor (LTS) magnets used in our SMES systems and as a result will discontinue operations in one of our two buildings in Middleton, WI comprising approximately 27,000 square feet. Cash payments related to the workforce reduction are expected to be substantially completed in the first quarter of fiscal 2003. Exit costs related to the leased facility will be incurred over the next 18 months. Anticipated cost savings as a result of this restructuring are estimated to be approximately $9 million during the fiscal year ending March 31, 2003.

RESULTS OF OPERATIONS

Fiscal Years Ended March 31, 2002 and March 31, 2001

Revenues

Total revenues declined to $11,650,000 in fiscal 2002 (ended March 31, 2002) from $16,768,000 in fiscal 2001, a decrease of $5,118,000. Power Electronic Systems business unit sales, which include SMES systems and power electronic converters, were $1,416,000 in fiscal 2002 compared to $9,315,000 in fiscal 2001, a decrease of $7,899,000. Lower SMES system sales were primarily attributable to adverse economic conditions and uncertain conditions in the electric power industry, which have led to significant delays in orders for capital goods. Revenues from our HTS Wire business unit were $4,394,000, a $551,000 decrease from prior year. HTS Wire product sales increased by $258,000 while revenues derived from research contracts with Pirelli and the U.S. Government declined by $809,000. Electric Motors and Generators business unit revenues increased $3,332,000 to $5,840,000 as a result of an increase in prototype development contract revenue with the U.S. Navy. We anticipate significant growth in product sales and prototype development contract revenue in fiscal 2003.

In addition to reported revenues, we also received funding of $603,000 in fiscal 2002 under a government cost-sharing agreement with the U.S. Air Force, compared to $262,000 in fiscal 2001. Funding from government cost-sharing agreements is recorded as an offset to research and development and selling, general and administrative expenses ("SG&A"), as required by government contract accounting guidelines, rather than as revenue. We anticipate that a portion of our funding in the future will continue to come from cost-sharing agreements as we continue to develop joint programs with government agencies.

Costs and expenses

Total costs and expenses for the year ended March 31, 2002 were $73,203,000 compared to $51,163,000 for the prior year. These costs and expenses included $13,867,000 of charges recorded in the fourth quarter related to the restructuring and product line consolidation implemented in March 2002 and the purchase of a license from Pirelli Energy Cables & Systems ("Pirelli") announced in February 2002. The restructuring costs of $5,666,000 included $1,549,000 of severance and related costs, $2,826,000 of production and test equipment write-offs related to the decision to outsource magnet requirements for SMES products, $691,000 of facility exit costs, and $600,000 of cancelled purchase commitments. We recorded a one-time charge of $4,010,000 relating to the new license agreement from Pirelli to allow us to sell HTS wire to other cable manufacturers in addition to Pirelli. Included in SG&A was a $727,000 increase in the allowance for doubtful account reserve related to the product line consolidation. "Costs of revenue—product sales and prototype development contracts" included $3,464,000 related to a magnet inventory reserve associated with the Power Electronic Systems business unit restructuring. "Costs of revenue—product sales and prototype development contracts" also increased due to the higher level of Electric Motors and Generators prototype development contract revenues with the U.S. Navy and increased HTS Wire product sales, partially offset by lower cost of sales associated with decreased SMES system sales. "Costs of revenue—contract revenue" decreased proportionally with the lower level of contract revenue.

Adjusted research and development ("R&D") expenses, which include amounts classified as costs of revenue and amounts offset by cost sharing funding, increased to $36,882,000 in fiscal 2002, compared to $28,846,000 in fiscal 2001. These increases were due to the continued scale-up of our internal research and development activities, particularly in the areas of multi-filamentary composite wire scale-up and power electronic converters, including the hiring of additional personnel and the purchases of materials and equipment, and higher spending on licenses, consultants and outside contractors. A portion of the R&D expenditures related to externally funded development contracts has been classified as costs of revenue (rather than as R&D expenses). Additionally, a portion of R&D expenses was offset by cost sharing funding. Net R&D expenses (exclusive of amounts classified as costs of revenues and amounts offset by cost sharing funding) increased to $27,814,000 in fiscal 2002 from $22,832,000 in fiscal 2001.

Our R&D expenditures are summarized as follows:

	Year Ended 3/31/2002	Year Ended 3/31/2001
R&D expenses per Consolidated Statements of Operations	$27,814,000	$22,832,000
R&D expenditures on development contracts classified as Costs of revenue	8,757,000	5,879,000
R&D expenditures offset by cost sharing funding	311,000	135,000
Adjusted R&D expenses	$36,882,000	$28,846,000

Adjusted SG&A expenses, which include amounts classified as costs of revenue and amounts offset by cost sharing funding, increased to $18,264,000 in fiscal 2002 from $16,163,000 in the prior year. These increases were primarily due to the hiring of additional personnel and related expenses incurred to support corporate development, marketing, and recruiting activities and future planned growth, and an increase in the allowance for doubtful accounts. A portion of the SG&A expenditures related to externally funded development contracts has been classified as costs of revenue (rather than as SG&A expenses). Additionally, a portion of SG&A expenses was offset by cost sharing funding. Net SG&A expenses (exclusive of amounts classified as costs of revenue and amounts offset by cost sharing funding) was $16,313,000 in fiscal 2002 compared to $14,215,000 in the prior year.

Our SG&A expenditures are summarized as follows:

	Year Ended 3/31/2002	Year Ended 3/31/2001
SG&A expenses per Consolidated Statements of Operations	$16,313,000	$14,215,000
SG&A expenditures on development contracts classified as Costs of revenue	1,659,000	1,821,000
SG&A expenditures offset by cost sharing funding	292,000	127,000
Adjusted SG&A expenses	$18,264,000	$16,163,000

Non-operating expenses / Interest income

Interest income decreased to $4,451,000 in fiscal 2002 from $12,555,000 in fiscal 2001. This decrease in interest income reflects the lower cash balances available for investment as a result of cash being used to fund our operations and to purchase property, plant and equipment, as well as lower interest rates available on our investments. Other income (expense), net of $117,000 in fiscal 2002 consists primarily of investment gains from long-term marketable securities.

We expect to continue to incur operating losses in the next year, as we continue to devote significant financial resources to our research and development activities and commercialization efforts.

We expect to be party to agreements which, from time to time, may result in costs incurred exceeding expected revenues under such contracts. We may enter into such agreements for a variety of reasons including, but not limited to, entering new product application areas, furthering the development of key technologies, and advancing the demonstration of commercial prototypes in critical market applications.

Please refer to the "Future Operating Results" section below for a discussion of certain factors that may affect our future results of operations and financial condition.

Fiscal Years Ended March 31, 2001 and March 31, 2000

Revenues

Total revenues increased to $16,768,000 in fiscal 2001 from $15,113,000 in fiscal 2000. Revenues from our SMES business unit (now called the Power Electronic Systems business unit) increased $5,813,000 to $9,315,000 in fiscal 2001 from $3,502,000 in fiscal 2000, as a result of increased SMES product sales. Revenues

in our HTS business unit were $7,453,000, or $4,158,000 less than the $11,611,000 recorded in fiscal 2000. Lower HTS revenues were the result of a reduction in research and development contract revenues, which decreased from $10,439,000 in fiscal 2000 to $3,186,000 in fiscal 2001. This decrease was primarily due to completion in fiscal 2000 of development contracts with Asea, Brown, Boveri (ABB), EDF, and the Electric Power Research Institute, which had revenues of $1,050,000, $1,050,000, and $825,000, respectively, in fiscal 2000, and a reduction of $2,250,000 in revenues recorded from our research and development contract with Pirelli. Fiscal 2000 revenues from Pirelli included $2,500,000 of retroactive funding for work performed prior to the October 1, 1999 effective start date of the Pirelli development contract. Additionally, U.S. Government Small Business Innovation Research ("SBIR") funding decreased by $1,936,000 in fiscal 2001 due to our increased focus on commercialization and reduced level of government SBIR proposal submission activity. These reductions in HTS contract revenues were partially offset by an increase of $1,439,000 in HTS wire sales and an increase of $1,114,000 in Navy prototype development contract revenues.

In addition to reported revenues, we also received funding of $262,000 in fiscal 2001 under government cost-sharing agreements, compared to $1,967,000 in fiscal 2000. Funding from government cost-sharing agreements is recorded as an offset to research and development and selling, general and administrative expenses, as required by government contract accounting guidelines, rather than as revenue.

Costs and expenses

Total costs and operating expenses in fiscal 2001 were $51,163,000 compared to $34,586,000 in fiscal 2000. Costs of revenue, which include costs of research and development contracts and costs of product sales and prototype development contracts, decreased by $578,000 to $14,116,000 in fiscal 2001 compared to $14,694,000 in fiscal 2000. A $7,190,000 reduction in costs of revenue related to lower contract revenue was largely offset by a $6,612,000 increase in cost of revenue associated with greater product sales and prototype development contracts in fiscal 2000.

Adjusted R&D expenses, which include amounts classified as costs of revenue and amounts offset by cost sharing funding, increased to $28,846,000 in fiscal 2001 from $22,632,000 in fiscal 2000. This increase was due to the continued scale-up of our internal research and development activities, including the hiring of additional personnel, the purchases of materials and equipment, and higher spending on licenses and consultants/outside contractors. A portion of the R&D expenditures related to externally funded development contracts has been classified as costs of revenue (rather than as R&D expenses). A significantly higher proportion of R&D expenditures was classified as costs of revenue in fiscal 2000 due to the higher level of Pirelli and other contract revenues. Additionally, a portion of R&D expenses was offset by cost sharing funding. Net R&D expenses (exclusive of amounts classified as costs of revenues and amounts offset by cost sharing funding) increased to $22,832,000 in the year ended March 31, 2001 from $13,206,000 for fiscal 2000.

Our R&D expenditures are summarized as follows:

	Year Ended 3/31/2001	Year Ended 3/31/2000
R&D expenses per Consolidated Statements of Operations	$22,832,000	$13,206,000
R&D expenditures on development contracts classified as Costs of revenue	5,879,000	8,412,000
R&D expenditures offset by cost sharing funding	135,000	1,014,000
Adjusted R&D expenses	$28,846,000	$22,632,000

Adjusted SG&A expenses, which include amounts classified as costs of revenue and amounts offset by cost sharing funding, were $16,163,000 in fiscal 2001, compared to $11,684,000 in fiscal 2000. These increases were primarily due to the hiring of additional personnel and related expenses incurred to support corporate development and marketing activities and future planned growth. A significantly higher proportion of SG&A expenditures was classified as costs of revenue in fiscal 2000 due to the higher level of Pirelli and other contract

revenues. Additionally, a portion of SG&A expenses was offset by cost sharing funding. Net SG&A expenses (exclusive of amounts classified as costs of revenues and amounts offset by cost sharing funding) increased to $14,215,000 in the year ended March 31, 2001 from $6,686,000 for fiscal 2000.

Our SG&A expenditures are summarized as follows:

	Year Ended 3/31/2001	Year Ended 3/31/2000
SG&A expenses per Consolidated Statements of Operations	$14,215,000	$ 6,686,000
SG&A expenditures on development contracts classified as Costs of revenue	1,821,000	4,045,000
SG&A expenditures offset by cost sharing funding	127,000	953,000
Adjusted SG&A expenses	$16,163,000	$11,684,000

Non-operating expenses / Interest income

Interest income increased to $12,555,000 in fiscal 2001 from $1,871,000 in fiscal 2000. This increase reflects the higher cash balances available for investment as a result of receiving $205,625,000 in net proceeds from our March 2000 public offering of 3,500,000 shares of common stock.

LIQUIDITY AND CAPITAL RESOURCES

At March 31, 2002, we had cash, cash equivalents and long-term marketable securities of $68,200,000 compared to $160,225,000 at March 31, 2001. The principal uses of cash during fiscal 2002 were $26,456,000 for the funding of our operations, $63,122,000 for the acquisition of property, plant and equipment, primarily related to the construction of our HTS Wire manufacturing facility in Devens, Massachusetts, and $3,173,000 for an increase in other assets, primarily capitalized patent and license costs.

Long-term accounts receivable was $0 as of March 31, 2002, compared to $875,000 at December 31, 2001 and $1,250,000 at March 31, 2001, as a result of the new agreement with Pirelli announced in February 2002 in which we acquired the right to sell our HTS wire to other cable manufacturers in addition to Pirelli in exchange for a $2,250,000 license payment, 50,000 shares of our stock, royalties on future such sales of our wire, and the forgiveness of $1,375,000 of accounts receivable ($875,000 of which was in long-term receivables). The long-term receivable was related to $2,500,000 recognized as revenue in the year ended March 31, 2000 for R&D work performed by us related to a development agreement with Pirelli. This amount was scheduled to be paid in installments over a five-year period ending on September 30, 2004.

Goodwill of $1,108,000 at March 31, 2002 represents the excess of the purchase price paid for the acquisition of substantially all of the assets of Integrated Electronics, LLC ("IE") on June 1, 2000, over the fair value of IE's assets, less amortization taken between June 1, 2000 and March 31, 2001. Effective April 1, 2001 we adopted the provisions of Statement of Financial Accounting Standards ("SFAS") No. 142, "Goodwill and Other Intangible Assets" and we have ceased amortizing the goodwill acquired in the IE purchase. As of March 31, 2002, we conducted an evaluation of the goodwill and determined that it is not impaired, and there are no current events suggesting future impairment.

The possibility exists that we may pursue acquisition and joint venture opportunities in the future that may affect liquidity and capital resource requirements.

Deferred revenue represents the amount billed or collected from commercial and government customers on contracts which permit billings to occur in advance of contract performance/revenue recognition.

We have potential funding commitments (excluding amounts included in accounts receivable) of approximately $11,020,000 to be received after March 31, 2002 from government and commercial customers,

compared to $12,436,000 at March 31, 2001, which included $8,300,000 from Pirelli. However, these current funding commitments, including $9,450,000 on U.S. government contracts, are subject to certain cancellation provisions. Of the current commitment amount of $11,020,000, approximately 74% is potentially collectable within the next 12 months.

We had outstanding capital expenditure commitments related to the purchase and installation of equipment for its HTS Wire manufacturing facility in Devens, MA of approximately $5,033,000 at March 31, 2002, and future lease commitments for fiscal 2003 through 2007 of $12,746,000.

We believe that our existing capital resources will be sufficient to fund our operations until the end of fiscal 2005, at which time we expect to reach corporate-wide profitability. However, we may need additional funds sooner than anticipated if our performance deviates significantly from our current business plan, if there are significant changes in competitive or other market factors, or if unforeseen circumstances arise. There can be no assurance that such funds, whether from equity or debt financing, development contracts or other sources, will be available, or available under terms acceptable to us, if at all.

To date, inflation has not had a material impact on our financial results.

New Accounting Pronouncements

In October 2001, the FASB issued Statement of Financial Accounting Standards No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets" ("SFAS 144"). SFAS 144 supercedes SFAS No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed of". SFAS 144 applies to all long-lived assets (including discontinued operations) and consequently amends Accounting Principles Board Opinion No. 30, "Reporting Results of Operations—Reporting the Effects of Disposal of a Segment of a Business". SFAS 144 is effective for financial statements issued for fiscal years beginning after December 15, 2001, and thus becomes effective on April 1, 2002. Management believes the future impact on our financial statements as a result of this interpretation will not be material.

In November 2001, the Emerging Issues Task Force (EITF), a committee of the FASB, reached a consensus on EITF Issue 01-9, *Accounting for Consideration Given by a Vendor to a Customer or Reseller of the Vendor's Products* ("EITF 01-9"). EITF 01-9 presumes that consideration, including equity instruments, from a vendor to a customer or reseller of the vendor's products is a reduction of the selling prices of the vendor's products and, therefore, should be characterized as a reduction of revenue when recognized in the vendor's income statement and could lead to negative revenue under certain circumstances. Revenue reduction is required unless consideration relates to a separate identifiable benefit and the benefit's fair value can be established. EITF 01-9 is applicable as of April 1, 2002. We do not currently expect the adoption of EITF 01-9 to have a material impact on its financial position or results of operations.

During January 2002, the EITF reached consensus on EITF Issue 01-14, *Income Statement Characterization of Reimbursements Received for 'Out-of-Pocket' Expenses Incurred* ("EITF 01-14"). The EITF concluded in EITF 01-14 that reimbursements received for out-of-pocket expenses incurred should be characterized as revenue in the income statement with the offsetting costs recorded as costs of revenue. Out-of-pocket expenses generally include, but are not limited to, expenses related to airfare, mileage, hotel stays, out-of-town meals, photocopies, and telecommunications and facsimile charges. EITF 01-14 is applicable as of April 1, 2002. Upon adoption, reclassification of all prior period amounts is required to conform to the current period presentation. We do not currently expect the adoption of EITF 01-14 to have a material impact on its financial position or results of operations.

Quantitative and Qualitative Disclosures About Market Risk

Our exposure to market risk through financial instruments, such as investments in marketable securities, is not material.

FUTURE OPERATING RESULTS

Various statements included herein, as well as other statements made from time to time by our representatives, which relate to future matters (including but not limited to statements concerning our future commercial success) constitute forward looking statements and are made under the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. There are a number of important factors which could cause our actual results of operations and financial condition in the future to vary from that indicated in such forward looking statements. Factors that may cause such differences include, without limitation, the risks, uncertainties and other information set forth below.

We have a history of operating losses and we expect to continue to incur losses in the future.

We have been principally engaged in research and development activities. We have incurred net losses in each year since our inception. Our net loss for fiscal 2000, fiscal 2001, and fiscal 2002 was $17,598,000, $21,676,000, and $56,985,000, respectively. Our accumulated deficit as of March 31, 2002 was $185,477,000. We expect to continue to incur operating losses in the next year and there can be no assurance that we will ever achieve profitability.

There are a number of technological challenges that must be successfully addressed before our superconductor products can gain widespread commercial acceptance.

Many of our products are in the early stages of commercialization and testing, while others are still under development. We do not believe any company has yet successfully developed and commercialized significant quantities of HTS wire or wire products. There are a number of technological challenges that we must successfully address to complete our development and commercialization efforts. For example, we face engineering challenges in producing HTS wire in longer lengths and commercial quantities. We also believe that several years of further development in the cable and motor industries will be necessary before a substantial number of additional commercial applications for our HTS wire in these industries can be developed and proven. We may also need to improve the quality of our HTS wire to expand the number of commercial applications for it. We may be unable to meet such technological challenges. Delays in development, as a result of technological challenges or other factors, may result in the introduction of our products later than anticipated.

The commercial uses of superconductor products are very limited today, and a widespread commercial market for our products may not develop.

To date, there has been no widespread commercial use of HTS products. Although LTS products are currently used in several commercial applications, commercial acceptance of LTS products, other than for medical magnetic resonance imaging and superconductor magnetic energy storage products, has been significantly limited by the cooling requirements of LTS materials. Even if the technological hurdles currently limiting commercial uses of HTS and LTS products are overcome, it is uncertain whether a robust commercial market for those new and unproven products will ever develop. It is possible that the market demands we currently anticipate for our HTS and LTS products will not develop and that superconductor products will never achieve widespread commercial acceptance.

We expect to spend significant amounts on the expansion of our manufacturing capacity, and our expansion projects may not be successful.

In anticipation of significantly increased demand for our products, we are completing a project to expand our HTS wire manufacturing capacity at the Devens Commerce Center in Devens, Massachusetts. During the current fiscal year, we used a large portion of the net proceeds from our March 2000 stock offering to fund the construction and purchase equipment for the new HTS Wire manufacturing facility in Devens. While we expect to complete this project within our estimates, the actual costs for equipment may be in excess of our expectations.

In addition, we may experience start-up difficulties or other problems once the facility becomes fully operational. Finally, if increased demand for our products does not materialize, we will not generate sufficient revenue to offset the cost of establishing and operating the facility.

We have no experience manufacturing our HTS products in commercial quantities.

To be financially successful, we will have to manufacture our products in commercial quantities at acceptable costs while also preserving the quality levels we have achieved in manufacturing these products in limited quantities. This presents a number of technological and engineering challenges for us. We cannot make assurances that we will be successful in developing product designs and manufacturing processes that permit us to manufacture our HTS products in commercial quantities at commercially acceptable costs while preserving quality. In addition, we may incur significant start-up costs and unforeseen expenses in our product design and manufacturing efforts.

We have historically focused on research and development activities and have limited experience in marketing and selling our products.

We have been primarily focused on research and development of our superconductor products. Consequently, our management team has limited experience directing our commercialization efforts, which are essential to our future success. To date, we have only limited experience marketing and selling our products, and there are very few people anywhere who have significant experience marketing or selling superconductor products. Once our products are ready for commercial use, we will have to develop a marketing and sales organization that will effectively demonstrate the advantages of our products over both more traditional products and competing superconductor products or other technologies. We may not be successful in our efforts to market this new and unfamiliar technology, and we may not be able to establish an effective sales and distribution organization.

We may decide to enter into arrangements with third parties for the marketing or distribution of our products, including arrangements in which our products, such as HTS wire, are included as a component of a larger product, such as a motor. We have a marketing and sales alliance with GE Industrial Systems giving GE the exclusive right to offer our Distributed-SMES (D-SMES) and D-VAR product lines in the United States to utilities and the right to sell industrial Power Quality-SMES (PQ-SMES) systems to certain of GE's global industrial accounts. By entering into marketing and sales alliances, the financial benefits to us of commercializing our products are dependent on the efforts of others. We may not be able to enter into marketing or distribution arrangements with third parties on financially acceptable terms, and third parties may not be successful in selling our products or applications incorporating our products.

Our products face intense competition both from superconductor products developed by others and from traditional, non-superconductor products and alternative technologies.

As we begin to market and sell our superconductor products, we will face intense competition both from competitors in the superconductor field and from vendors of traditional products and new technologies. There are many companies in the United States, Europe, Japan and China engaged in the development of HTS products, including Sumitomo Electric Industries, 3M, Intermagnetics General, Nordic Superconductor Technologies, and Innova. The superconductor industry is characterized by rapidly changing and advancing technology. Our future success will depend in large part upon our ability to keep pace with advancing HTS and LTS technology and developing industry standards. Our SMES products and integrated power electronic products, such as D-VAR™, compete with a variety of non-superconductor products such as dynamic voltage restorers ("DVRs"), static VAR compensators ("SVCs"), static compensators ("STATCOMS"), flywheels, power electronic converters and battery-based power supply systems. Competition for our PowerModules™ includes products from Ecostar, Inverpower, Satcon, Semikron and Trace. The HTS motor and generator products that we are developing face competition from copper wire-based motors and generators, and from permanent magnet motors that are being developed. Research efforts and technological advances made by others in the superconductor field or in other

areas with applications to the power quality and reliability markets may render our development efforts obsolete. Many of our competitors have substantially greater financial resources, research and development, manufacturing and marketing capabilities than we have. In addition, as the HTS, power quality and power reliability markets develop, other large industrial companies may enter those fields and compete with us.

Third parties have or may acquire patents that cover the high temperature superconductor materials we use or may use in the future to manufacture our products.

We expect that some or all of the HTS materials and technologies we use in designing and manufacturing our products are or will become covered by patents issued to other parties, including our competitors. If that is the case, we will need either to acquire licenses to these patents or to successfully contest the validity of these patents. The owners of these patents may refuse to grant licenses to us, or may be willing to do so only on terms that we find commercially unreasonable. If we are unable to obtain these licenses, we may have to contest the validity or scope of those patents to avoid infringement claims by the owners of these patents. It is possible that we will not be successful in contesting the validity or scope of a patent, or that we will not prevail in a patent infringement claim brought against us. Even if we are successful in such a proceeding, we could incur substantial costs and diversion of management resources in prosecuting or defending such a proceeding.

There are numerous patents issued in the field of superconductor materials and our patents may not provide meaningful protection for our technology.

We own or have licensing rights under many patents and pending patent applications. However, the patents that we own or license may not provide us with meaningful protection of our technologies, and may not prevent our competitors from using similar technologies, for a variety of reasons, such as:

- the patent applications that we or our licensors file may not result in patents being issued;
- any patents issued may be challenged by third parties; and
- others may independently develop similar technologies not protected by our patents or design around the patented aspects of any technologies we develop.

Moreover, we could incur substantial litigation costs in defending the validity of our own patents. We also rely on trade secrets and proprietary know-how to protect our intellectual property. However, our non-disclosure agreements and other safeguards may not provide meaningful protection for our trade secrets and other proprietary information.

Our success is dependent upon attracting and retaining qualified personnel.

Our success will depend in large part upon our ability to attract and retain highly qualified research and development, management, manufacturing, marketing and sales personnel. Hiring those persons may be especially difficult due to the specialized nature of our business.

We are particularly dependent upon the services of Dr. Gregory J. Yurek, our co-founder and our Chairman of the Board, President and Chief Executive Officer, and Dr. Alexis P. Malozemoff, our Chief Technical Officer. The loss of the services of either of those individuals could significantly damage our business and prospects.

Report of Independent Accountants

To the Board of Directors and Stockholders of
American Superconductor Corporation:

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows present fairly, in all material respects, the financial position of American Superconductor Corporation (the "Company") at March 31, 2002 and 2001, and the results of its operations and its cash flows for each of the three years in the period ended March 31, 2002 in conformity with accounting principles generally accepted in the United States of America. 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 of these statements in accordance with auditing standards generally accepted in the United States of America, which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

PricewaterhouseCoopers LLP

Boston, MA
May 10, 2002

AMERICAN SUPERCONDUCTOR CORPORATION

CONSOLIDATED BALANCE SHEETS

	March 31, 2002	March 31, 2001
ASSETS		
Current assets:		
Cash and cash equivalents	$ 37,170,927	$ 89,063,299
Accounts receivable	7,583,505	13,416,068
Inventory	13,212,831	14,300,928
Prepaid expenses and other current assets	708,079	603,744
Total current assets	58,675,342	117,384,039
Property and equipment:		
Land	4,244,611	4,138,104
Construction in progress-building and equipment	79,685,813	23,285,351
Equipment	24,939,124	26,667,800
Furniture and fixtures	3,833,016	2,225,296
Leasehold improvements	6,226,267	4,741,947
	118,928,831	61,058,498
Less: accumulated depreciation	(21,209,230)	(18,746,317)
Property and equipment, net	97,719,601	42,312,181
Long-term marketable securities	31,028,683	71,161,804
Long-term accounts receivable	—	1,250,000
Long-term inventory	3,787,000	3,787,000
Goodwill	1,107,735	1,107,735
Other assets	5,476,563	2,924,153
Total assets	$ 197,794,924	$ 239,926,912
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued expenses	$ 20,784,931	$ 8,576,022
Deferred revenue	1,056,806	—
Total current liabilities	21,841,737	8,576,022
Long-term deferred revenue	3,787,000	3,787,000
Commitments (Note 8)		
Stockholders' equity:		
Common stock, $.01 par value		
Authorized shares-50,000,000; issued and outstanding shares-20,497,514 in 2002 and 20,290,596 in 2001	204,975	202,906
Additional paid-in capital	357,781,718	355,843,848
Deferred compensation	(318,199)	(424,266)
Deferred contract costs	(121,167)	(336,347)
Accumulated other comprehensive income	95,641	769,641
Accumulated deficit	(185,476,781)	(128,491,892)
Total stockholders' equity	172,166,187	227,563,890
Total liabilities and stockholders' equity	$ 197,794,924	$ 239,926,912

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

AMERICAN SUPERCONDUCTOR CORPORATION

CONSOLIDATED STATEMENTS OF OPERATIONS

	Year ended March 31,		
	2002	2001	2000
Revenues:			
Contract revenue	$ 2,111,460	$ 3,185,537	$ 10,438,700
Product sales and prototype development contracts	9,538,640	13,581,987	4,674,435
Total revenues	11,650,100	16,767,524	15,113,135
Costs and expenses:			
Costs of revenue—contract revenue	2,100,789	3,135,440	10,325,194
Costs of revenue—product sales and prototype development contracts	17,298,856	10,980,753	4,368,989
Research and development	27,814,044	22,832,357	13,206,073
Selling, general and administrative	16,313,306	14,214,542	6,685,593
Pirelli license costs	4,009,890	—	—
Restructuring charges	5,666,059	—	—
Total costs and expenses	73,202,944	51,163,092	34,585,849
Operating Loss	(61,552,844)	(34,395,568)	(19,472,714)
Interest Income	4,450,769	12,555,411	1,870,541
Other income, net	117,186	164,146	4,343
Net loss	$(56,984,889)	$(21,676,011)	$(17,597,830)
Net loss per common share			
Basic and diluted	$ (2.79)	$ (1.08)	$ (1.11)
Weighted average number of common shares outstanding			
Basic and diluted	20,409,233	20,127,348	15,820,074

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

AMERICAN SUPERCONDUCTOR CORPORATION

CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

	Year ended March 31,		
	2002	2001	2000
Net loss	$(56,984,889)	$(21,676,011)	$(17,597,830)
Other comprehensive (loss)			
Foreign currency translation	7,007	(8,591)	(14,897)
Unrealized gains (losses) on investments	(681,007)	950,747	(168,010)
Other comprehensive income (loss)	(674,000)	942,156	(182,907)
Comprehensive (loss)	$(57,658,889)	$(20,733,855)	$(17,780,737)

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

AMERICAN SUPERCONDUCTOR CORPORATION

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year ended March 31,		
	2002	2001	2000
Cash flows from operating activities:			
Net loss	$(56,984,889)	$ (21,676,011)	$ (17,597,830)
Adjustments to reconcile net loss to net cash used by operations:			
Depreciation and amortization	5,509,043	4,098,904	2,253,581
Restructuring and other charges	7,121,044	—	—
Pirelli license payment (non-cash portion)	1,720,500	—	—
Deferred compensation expense	106,067	106,067	106,067
Deferred warrant costs	268,470	354,495	444,862
Stock compensation expense	479,472	222,014	96,962
Changes in operating asset and liability accounts:			
Accounts receivable	4,947,670	(5,546,781)	(4,967,798)
Inventory	(2,376,178)	(8,580,998)	(4,222,398)
Prepaid expenses and other current assets	(167,801)	205,385	(270,644)
Accounts payable and accrued expenses	11,863,409	2,236,999	2,167,075
Deferred revenue—current and long-term	1,056,806	2,155,867	1,631,133
Net cash used by operating activities	(26,456,387)	(26,424,059)	(20,358,990)
Cash flows from investing activities:			
Purchase of property and equipment	(63,122,176)	(35,897,926)	(5,932,079)
Purchase of long-term marketable securities	—	—	(85,302,630)
Sale of long-term marketable securities	39,452,114	21,526,392	—
Purchase of assets of Integrated Electronics, LLC	—	(755,000)	—
Net investment in sales-type lease	—	279,110	8,000
Increase in other assets	(3,173,100)	(2,175,930)	(584,266)
Net cash used in investing activities	(26,843,162)	(17,023,354)	(91,810,975)
Cash flows from financing activities:			
Net proceeds from issuance of common stock	1,407,177	5,592,944	214,118,591
Net cash provided by financing activities	1,407,177	5,592,944	214,118,591
Net increase (decrease) in cash and cash equivalents	(51,892,372)	(37,854,469)	101,948,626
Cash and cash equivalents at beginning of year	89,063,299	126,917,768	24,969,142
Cash and cash equivalents at end of year	$ 37,170,927	$ 89,063,299	$126,917,768
Supplemental schedule of cash flow information:			
Cash paid for interest	$ 0	$ 0	$ 0
Noncash issuance of common stock	$ 585,539	$ 1,406,206	$ 203,029

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

AMERICAN SUPERCONDUCTOR CORPORATION

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Common Stock		Additional Paid-in Capital	Deferred Compensation	Deferred Contract Costs	Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Number of Shares	Par Value						
Balance at March 31, 1999	15,378,656	$153,787	$134,030,618	$ —	$(1,018,391)	$ 10,392	$ (89,218,051)	$ 43,958,355
Exercise of stock options	692,737	6,927	9,051,762					9,058,689
Secondary public offering of common stock	3,500,000	35,000	205,024,902					205,059,902
Exercise of stock warrants	82,264	823	(823)					0
Deferred compensation	74,000	740	635,660	(636,400)				0
Amortization of deferred compensation				106,067				106,067
Stock compensation expense	7,057	70	96,892					96,962
Amortization of deferred compensation			64,023		380,839			444,862
Unrealized loss on investments						(168,010)		(168,010)
Cumulative translation adjustment						(14,897)		(14,897)
Net loss							(17,597,830)	(17,597,830)
Balance at March 31, 2000	19,734,714	$197,347	$348,903,034	$(530,333)	$ (637,552)	$(172,515)	$(106,815,881)	$240,944,100
Exercise of stock options	490,068	4,901	5,572,335					5,577,236
Purchase of IE	37,500	375	1,077,750					1,078,125
Exercise of stock warrants	18,253	182	15,526					15,708
Amortization of deferred compensation				106,067				106,067
Stock compensation expense	10,061	101	221,913					222,014
Amortization of deferred warrant costs			53,290		301,205			354,495
Unrealized gain on investments						950,747		950,747
Cumulative translation adjustment						(8,591)		(8,591)
Net loss							(21,676,011)	(21,676,011)
Balance at March 31, 2001	20,290,596	$202,906	$355,843,848	$(424,266)	$ (336,347)	$ 769,641	$(128,491,892)	$227,563,890
Exercise of stock options	75,166	752	708,748					709,500
Issuance of common stock — ESPP	96,720	967	696,710					697,677
Amortization of deferred compensation				106,067				106,067
Stock compensation expense	35,032	350	479,122					479,472
Amortization of deferred warrant costs			53,290		215,180			268,470
Unrealized loss on investments						(681,007)		(681,007)
Cumulative translation adjustment						7,007		7,007
Net loss							(56,984,889)	(56,984,889)
Balance at March 31, 2002	20,497,514	$204,975	$357,781,718	$(318,199)	$ (121,167)	$ 95,641	$(185,476,781)	$172,166,187

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

AMERICAN SUPERCONDUCTOR CORPORATION

NOTES TO CONSOLIDATED STATEMENTS

1. Nature of the Business

American Superconductor Corporation (the "Company"), which was formed on April 9, 1987, is a world leader in developing and manufacturing products using superconductor materials and power electronic converters for electric power applications. The focus of the Company's development and commercialization efforts is on electrical equipment for electric utilities, transmission grid operators, industrial and commercial users of electrical power, and commercial and military ships. For large-scale power applications, the Company's development efforts are focused on high temperature superconductor ("HTS") wire for use in power transmission cables, motors, and generators. The Company is also developing and commercializing electric motors and generators based on its HTS wire. For power quality and reliability applications, the Company is focused on proprietary power electronic converters that rapidly switch, control and modulate power. The Company also designs, manufactures, and sells systems based on those power electronic converters for power quality and reliability solutions. The Company operates in three business segments, HTS Wire, Electric Motors and Generators and Power Electronic Systems.

The Company currently derives a substantial portion of its revenue from research and development contracts. The Company has recorded contract revenue related to research and development contracts of $2,111,460, $3,185,537, and $10,438,700 for the fiscal years ended March 31, 2002, 2001, 2000, respectively. As discussed in Note 9, a significant portion of this current contract revenue related to a development contract with Pirelli.

Research and development ("R&D") and selling, general and administrative expenses ("SG&A") which are incurred on development contracts are classified as costs of revenue rather than as R&D and SG&A expenses and were approximately as follows:

	Year Ended 3/31/2002	Year Ended 3/31/2001	Year Ended 3/31/2000
Research and development expenses	$8,757,000	$5,879,000	$8,412,000
Selling, general and administrative expenses	$1,659,000	$1,821,000	$4,045,000

2. Summary of Significant Accounting Policies

A summary of the Company's significant accounting policies follows:

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All significant intercompany balances are eliminated.

On June 1, 2000, the Company acquired substantially all of the assets of Integrated Electronics, LLC ("IE"). The IE acquisition was accounted for under the purchase method of accounting. Goodwill of $1,329,282 represented the excess of the purchase price of $1,833,125 over the fair value of the acquired assets of $503,843 at June 1, 2000. The purchase price consisted of cash paid to IE of $675,000, miscellaneous transaction costs of $80,000, and the value of 37,500 shares of the Company's common stock at June 1, 2000 of $1,078,125. The fair value of the assets acquired were accounts receivable of $52,278, inventory of $259,980, and fixed assets of $191,585. These asset purchases are included under "Purchase of assets of Integrated Electronics, LLC" in the Consolidated Statements of Cash Flows for the period ended March 31, 2001 and thus are excluded from the "Changes in operating asset and liability accounts" section of the Consolidated Statements of Cash Flows.

Certain prior year amounts have been reclassified to be consistent with current year presentation.

Cash Equivalents

The Company considers all highly liquid debt instruments with original maturities of three months or less to be cash equivalents. Cash equivalents consist of government obligations, repurchase agreements, and other debt instruments.

Accounts Receivable

Due to scheduled billing requirements specified under certain contracts, a portion of the Company's accounts receivable balance at March 31, 2002 and 2001 was unbilled. The unbilled portion included in the accounts receivable balance was approximately $4,549,144 or 60% of total accounts receivable and $5,815,334 or 43% of total accounts receivable at March 31, 2002 and 2001, respectively. The Company expects most of the unbilled balance at March 31, 2002 to be billed by the third quarter of the fiscal year ending March 31, 2003. Included in accounts receivable is $2,624,010 due from one customer related to the joint marketing of power quality and reliability products with the Company.

Long-term Accounts Receivable

Long-term accounts receivable consist of amounts due more than 12 months from the balance sheet date. This balance was $0 as of March 31, 2002, compared to $875,000 at December 31, 2001 and $1,250,000 at March 31, 2001, as a result of the new agreement with Pirelli announced in February 2002 in which the Company acquired the right to sell its HTS wire to other cable manufacturers in addition to Pirelli in exchange for a $2,250,000 one-time license payment, 50,000 shares of its stock, royalties on future such sales of its wire, and the forgiveness of $1,375,000 of accounts receivable ($875,000 of which was in long-term receivables). The long-term receivable was related to $2,500,000 recognized as revenue in the year ended March 31, 2000 for research and development work performed by the Company related to a development agreement with Pirelli. This amount was scheduled to be paid in installments over a five-year period ending on September 30, 2004.

Long-term Marketable Securities

Long-term marketable securities, with original maturities of 12 months or more when purchased, consist primarily of U.S. Treasury Notes, U.S. government agency securities, corporate bonds and other debt securities, in accordance with Statement of Financial Accounting Standards ("SFAS") No. 115, "Accounting for Certain Investments in Debt and Equity Securities." The Company determines the appropriate classification of its marketable securities at the time of purchase and re-evaluates such classification as of each balance sheet date.

Inventories

Inventories are stated at the lower of cost (determined on a first-in first-out basis) or market.

Long-term Inventory

Long-term inventory of $3,787,000 represents SMES units that have been ordered and delivered to our customer, Wisconsin Public Service Corporation ("WPS"). As the sale of these units is subject to certain return and buyback provisions until after 2002, the Company has deferred recognition of the revenue related to this sale until the buyback provisions lapse. Long-term deferred revenue of $3,787,000 represents the payment received related to this transaction.

Property and Equipment

Equipment and Furniture and Fixtures are recorded at cost and depreciated using the straight-line method over their estimated useful lives, which range from 3 to 7 years. Leasehold improvements are recorded at cost and amortized over the shorter of the useful life of the improvement or the remaining term of the lease. Expenditures for maintenance and repairs are expensed as incurred. Upon retirement or other disposition of assets, the costs and related accumulated depreciation are eliminated from the accounts and the resulting gain or loss is reflected in income.

Intangible Assets

Goodwill of $1,107,735 at March 31, 2001 represents the excess of the purchase price paid for the acquisition of substantially all of the assets of IE on June 1, 2000, over the fair value of IE's assets, less amortization. The IE transaction was accounted for under the purchase method of accounting. Goodwill was initially calculated to be $1,329,282, and was amortized until the adoption of SFAS 142 on April 1, 2001.

Goodwill amortization expense was $0 and $221,547 in the fiscal years ended March 31, 2002 and 2001, respectively. Accumulated goodwill amortization was $221,547 at March 31, 2002. Effective April 1, 2001, the Company adopted the provisions of Statement of Financial Accounting Standards ("SFAS") No. 142, "Goodwill and Other Intangible Assets," and has ceased amortizing the goodwill recorded as a result of the acquisition of substantially all of the assets of IE on June 1, 2000. The Company reviews its goodwill and other long-term assets at least annually or when events or changes in circumstances indicate that the carrying amount of such assets may not be fully recoverable. If the carrying amount of the net tangible and intangible assets in a given reporting unit exceed the reporting unit's fair value, a detailed impairment loss analysis would be performed to calculate the amount of impairment, if any, as prescribed by SFAS 142.

As of March 31, 2002, the Company has conducted both a transition and an annual evaluation of goodwill and other intangible assets, and determined that they were not impaired.

Impairment of Long-Lived Assets

The Company assesses the impairment of identifiable intangibles, long-lived assets and goodwill whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors the Company considers important which could trigger an impairment review include the following:

- Significant underperformance relative to expected historical or projected future operating results;
- Significant changes in the manner of our use of the acquired assets or the strategy for our overall business; and
- Significant negative industry or economic trends.

When the Company determines that the carrying value of intangibles, long-lived assets and goodwill may not be recoverable based upon the existence of one or more of the above indicators of potential impairment, the Company assesses whether an impairment has occurred based on whether net book value of the assets exceeds related projected undiscounted cash flows from these assets, considering a number of factors including past operating results, budgets, economic projections and market trends. When necessary, we write down an impaired asset to its estimated fair value based on the best information available. Estimated fair value is generally based on either appraised value or measured by discounting estimated future cash flows. Considerable management judgment is necessary to estimate discounted future cash flows.

Other Assets

Other assets at March 31, 2002 and 2001 consisted of the following:

	2002	2001
Licenses	$ 1,148,247	$1,070,747
Patents	5,715,795	2,601,705
Deposits	57,333	75,823
	6,921,375	3,748,275
Less: accumulated amortization	(1,444,812)	(824,122)
	$ 5,476,563	$2,924,153

External licenses and patent costs are amortized to expense on a straight-line basis over periods not exceeding 7 years. The carrying value of tangible and intangible assets is periodically reviewed by the Company. If the carrying amount of the net tangible and intangible assets in a given reporting unit exceed the reporting units fair value, a detailed impairment loss analysis would be performed to calculate the amount of the impairment. The Company recorded patent and license amortization expense of $620,690, $330,386, and $107,114 for fiscal years 2002, 2001, and 2000, respectively.

Effective March 31, 1998, the Company signed an agreement with Lucent Technologies, Inc. ("Lucent") granting the Company a royalty-bearing, non-exclusive, worldwide license for superconductor wire under Lucent's portfolio of high temperature superconductor patents and patent applications. The license runs from March 31, 1998 until the expiration of the last-to-expire patent in the portfolio.

Effective November 17, 1999, the Company signed an agreement with Massachusetts Institute of Technology ("MIT") granting the Company an exclusive, royalty-bearing, worldwide license for coated conductor composite wire made under an MIT patent and patent application. The license is exclusive until the first to occur of eight years after the first commercial sale of a licensed product or eight years after the first commercial use of a licensed process, or November 17, 2010. Thereafter the license remains exclusive as long as running royalties paid to MIT remain above a certain amount per year, or becomes non-exclusive until the end of the term of the patent rights.

Effective March 1, 2000, the Company signed an agreement with Oak Ridge National Laboratory ("ORNL") granting the Company a royalty-bearing, non-exclusive, worldwide license for coated conductor composite wire made under ORNL patents and patent applications. The license runs from March 1, 2000 until the expiration of the last-to-expire licensed patent.

Revenue Recognition

For certain arrangements, for example on contracts to perform research and development and on prototype development contracts, the Company records revenues using the percentage of completion method, measured by the relationship of costs incurred to total estimated contract costs. The Company follows this method since reasonably dependable estimates of the revenue and costs applicable to various stages of a contract can be made. Since many contracts extend over a long period of time, revisions in cost and funding estimates during the progress of work have the effect of adjusting earnings applicable to performance in prior periods in the current period. Recognized revenues and profit are subject to revisions as the contract progresses to completion. Revisions in profit estimates are charged to income in the period in which the facts that give rise to the revision become known.

The Company recognizes revenue from product sales upon shipment, installation or acceptance, where applicable, provided persuasive evidence of an arrangement exists, delivery has occurred, the sales price is fixed or determinable and collectibility is reasonably assured, or for some programs, on the percentage of completion method of accounting. When other significant obligations remain after products are delivered, revenue is recognized only after such obligations are fulfilled.

Customer deposits are recorded as deferred revenue until the related sales are recognized. Contract revenues in excess of billings is recorded as unbilled receivables and is included in trade accounts receivable. Billings in excess of revenue are recorded as deferred revenue until revenue recognition criteria are met. Deferred revenue represents the amount billed or collected from commercial and government customers on contracts which permit billings to occur in advance of contract performance/revenue recognition.

Research and Development Costs

Research and development costs are expensed as incurred.

Income Taxes

Deferred income taxes are recognized for the tax consequences in future years of differences between the tax bases of assets and liabilities and their financial reporting amounts at each fiscal year end based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable income. Valuation allowances are established when necessary to reduce net deferred tax assets to the amount expected to be realized. No current or deferred income taxes have been provided because of the net operating losses incurred by the Company since its inception.

Computation of Net Loss per Common Share

The Company has adopted Statement of Financial Accounting Standards ("SFAS") No. 128, "Earnings Per Share" which requires presentation of basic earnings per share ("EPS") and, for companies with complex capital structures, diluted EPS. Basic EPS excludes dilution and is computed by dividing net income available to common stockholders by the weighted-average number of common shares outstanding for the period. Diluted EPS includes dilution and is computed using the weighted average number of common and dilutive common equivalent shares outstanding during the period. Common equivalent shares include the effect of the exercise of stock options and warrants. For the years ended March 31, 2002, 2001, and 2000, common equivalent shares of 2,537,279, 2,523,769, and 1,788,401, respectively, were not included in the calculation of diluted EPS as they were considered antidilutive.

Foreign Currency Translation

The functional currency of the Company's foreign subsidiary is the local currency. The assets and liabilities of this operation are translated into U.S. dollars at the exchange rate in effect at the balance sheet date and income and expense items are translated at average rates for the period. Cumulative translation adjustments are excluded from net loss and shown as a separate component of stockholders' equity. Foreign currency transaction gains and losses are included in the net loss and have not been material to date.

Risks and Uncertainties

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities

and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates and would impact future results of operations and cash flows.

The Company invests its cash and cash equivalents with high-credit, quality financial institutions and invests primarily in investment grade-marketable securities, including, but not limited to, government obligations, repurchase agreements, and money market funds.

The Company's accounts receivable are comprised of amounts owed by government agencies and commercial companies. The Company does not require collateral or other security to support customer receivables. The Company believes any credit losses will not be material.

3. Long-term Marketable Securities

Long-term marketable securities at March 31, 2002 and 2001 consisted of U.S. government and government agency securities and corporate bonds

	2002	2001
Aggregate Cost	$30,909,413	$70,352,896
Fair Value	31,028,683	71,161,804
Gross Unrealized Gain	$ 119,270	$ 808,908

The Company's long-term marketable securities are classified as available-for-sale securities and, accordingly, are recorded at amortized cost plus accrued interest which approximates fair value. The difference between cost and fair value is included in stockholders' equity. All of these securities mature in one to two years.

4. Inventories

Inventories at March 31, 2002 and 2001 consisted of the following:

	2002	2001
Raw materials	$ 1,545,327	$ 4,476,701
Work-in-progress	10,046,359	8,143,403
Finished goods	1,621,145	1,680,824
	$13,212,831	$14,300,928

5. Accounts payable and accrued expenses

Accounts payable and accrued expenses at March 31, 2002 and 2001 consisted of the following:

	2002	2001
Accounts payable	$12,901,332	$3,281,217
Accrued restructuring	2,520,115	—
Accrued employee stock purchase plan	267,535	326,184
Accrued executive bonus	—	369,802
Accrued expenses	4,353,565	3,832,565
Accrued vacation	742,384	766,254
	$20,784,931	$8,576,022

6. Income Taxes

The reconciliation between the statutory federal income tax rate and the Company's effective income tax rate is shown below.

	Year Ended March 31		
	2002	2001	2000
Statutory federal income tax rate	(34)%	(34)%	(34)%
State income taxes, net federal benefit	(7)%	(6)%	(6)%
Nondeductible expenses	1%	1%	1%
Research & development credit	(2)%	(3)%	(2)%
Valuation allowance	42%	42%	41%
Effective income tax rate	0%	0%	0%

The principal components of the Company's deferred tax liabilities and assets were the following:

	March 31	
	2002	2001
Deferred tax assets and (liabilities):		
Net operating loss carryforward	$ 77,726,000	$ 58,784,000
Research and development and other credits	4,454,000	2,648,000
Accruals and reserves	5,279,000	729,000
Depreciation and other	(94,000)	1,117,000
Valuation allowance	(87,365,000)	(63,278,000)
Net	—	—

At March 31, 2002 the Company had available for federal income tax purposes net operating loss carryforwards of approximately $198,861,000, which expire in years 2003 through 2022. This includes approximately $15,086,000 of acquired net operating losses from Superconductivity, Inc. ("SI") which begin to expire in 2003, and their utilization by the Company will be subject to annual limitations. SI was acquired by the Company on April 8, 1997 through the merger of a wholly-owned subsidiary of the Company into SI. The Company has recorded a deferred tax asset of approximately $12,666,000 reflecting the benefit of deductions from the exercise of stock options. This deferred tax asset has been fully reserved until it is more likely than not that the tax benefit from the exercise of stock options will be realized. The benefit from this $12,666,000 will be recorded as a credit to additional paid-in capital when realized. Research and development and other credit carryforwards amounting to approximately $5,367,000 are available to offset federal and state income taxes and expire in years 2003 through 2022. Under current tax law, the utilization of net operating loss carryforwards may be subject to annual limitations in the event of certain changes in ownership.

7. Stockholders' Equity

The Offerings

On March 6, 2000 the Company completed a public offering of 3,500,000 shares of its common stock and received net proceeds (after the underwriters discount but before deducting offering expenses) of $205,625,000. On April 22, 1998 the Company completed a public offering of 3,504,121 shares of its common stock and received net proceeds (after the underwriters discount but before deducting offering expenses) of $46,114,000, of which approximately $3,142,000 was used to retire the Company's subordinated notes.

Stock Compensation Expense (Statements of Stockholders' Equity)

The company recorded stock compensation expense for the last three fiscal years as follows:

	2002	2001	2000
401(k) Match	$461,892	$181,086	$90,549
Employee Stock Awards	17,580	40,928	6,413
	$479,472	$222,014	$96,962

Stock-Based Compensation Plans

The Company has adopted the disclosure only option under Statement of Financial Accounting Standards (SFAS) 123 "Accounting for Stock-Based Compensation". Pro forma information regarding net income and earnings per share is required by SFAS 123, and has been determined as if the Company had accounted for its stock options under the fair value method of that Statement. Consistent with the method of SFAS 123, the Company's net loss and net loss per share would have increased to the pro forma amounts indicated below:

		For the fiscal years ended March 31,		
		2002	2001	2000
Net loss (in thousands)	As reported	$(56,985)	$(21,676)	$(17,598)
	Pro forma	$(67,081)	$(32,245)	$(21,368)
Loss per share	As reported	$ (2.79)	$ (1.08)	$ (1.11)
	Pro forma	$ (3.29)	$ (1.60)	$ (1.35)

The pro forma amounts include the effects of all activity under the Company's stock-based compensation plans since April 1, 1997. The fair value of each option grant is estimated on the date of grant using the Black-Scholes option pricing model with the following assumptions used for grants; a weighted average risk free interest rate of 4.5%, 5.7%, and 6.0% in fiscal 2002, fiscal 2001, and fiscal 2000, respectively; expected stock price volatility of 87% for fiscal 2002, 85% for fiscal 2001, 65% for fiscal 2000; no dividends; and a weighted average life of the options of 6.8 years. The weighted average fair value of options granted during fiscal 2002, fiscal 2001, and fiscal 2000 was $10.35 per share, $24.85 per share, and $7.45 per share, respectively. The above amounts may not be indicative of future expense because amounts are recognized over the vesting period and the Company expects it will have additional grants and related activity under these plans in the future.

The Company has six stock option plans including three Directors' Plans. The stock option plans (the "Plans") include the 1987 Stock Plan (the "1987 Plan"), the 1993 Stock Option Plan (the "1993 Plan"), the 1996 Stock Incentive Plan (the "1996 Plan"), the 1991 Director Stock Option Plan (the "1991 Director Plan"), the 1994 Director Stock Option Plan (the "1994 Director Plan"), and the Amended and Restated 1997 Director Stock Option Plan (the "1997 Director Plan"). The Board of Directors authorized the issuance of 74,000 shares of restricted stock to certain officers in fiscal year 2000. The restriction on sale can be removed upon meeting certain corporate performance targets. The Company recorded expenses of $106,067, $106,067 and $106,067 for the fiscal years ended 2002, 2001 and 2000, respectively related to this issuance. Additionally, the Board of Directors authorized options for an additional 175,000 shares related to the acquisition of IE. All options issued under the IE plan are nonqualified. The Plans are administered by the Compensation Committee of the Board of Directors and permit the Company to sell or award common stock or to grant stock options for the purchase of common stock.

The Plans provide for the issuance of incentive stock options and non-qualified stock options to purchase the Company's common stock. In the case of incentive stock options, the exercise price shall be equal to at least the fair market value of the common stock, as determined by the Board of Directors, on the date of grant. The 1991, 1994 and 1997 Director Plans are stock option plans for members of the Board of Directors who are not also employees of the Company ("outside directors"). The 1997 Director Plan provides for the automatic grant of stock options for the purchase of common stock by outside directors at an exercise price equal to fair market value at the grant date. No further grants may be made under the 1987 Plan, the 1991 Director Plan or the 1994 Director Plan.

Options granted under the Plans, other than the Amended and Restated 1997 Director Stock Option Plan, generally become exercisable in equal annual increments over a four or five year period and expire 10 years from the date of grant or from two to three months after termination of employment.

The following table summarizes information about stock options outstanding at March 31, 2002.

	Outstanding			Exercisable	
Range of Exercise Price	Number Outstanding At 3/31/02	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number Exercisable at 3/31/02	Weighted Average Exercise Price
$ 0.00– 5.89	74,000	6.9	$ 0.01	74,000	$ 0.01
5.89–11.78	1,484,290	6.2	9.99	830,431	9.99
11.78–17.66	1,307,020	6.3	13.33	597,300	12.96
17.66–23.55	477,500	3.4	20.57	391,300	20.56
23.55–29.44	711,430	8.0	26.00	147,670	26.01
29.44–35.33	751,500	8.3	32.56	151,500	32.56
35.33–41.21	66,500	8.6	36.82	13,300	36.82
41.21–47.10	40,300	8.5	46.13	10,300	46.13
47.10–58.88	40,000	7.9	58.88	20,000	58.88
$ 0.00–58.88	4,952,540	6.6	$18.51	2,235,801	$15.65

The following table summarizes the information concerning currently outstanding and exercisable options:

	Shares	Weighted average Exercise Price	Number Exercisable
Outstanding at March 31, 1999	3,235,526	$ 12.82	1,563,057
Granted	946,750	13.11	
Exercised	(692,737)	13.10	
Canceled	(24,818)	10.42	
Outstanding at March 31, 2000	3,464,721	$ 12.86	1,398,191
Granted	1,703,200	29.33	
Exercised	(490,068)	11.61	
Canceled	(91,044)	14.48	
Outstanding at March 31, 2001	4,586,809	$ 18.93	1,515,347
Granted	857,050	13.30	
Exercised	(75,166)	9.59	
Canceled	(416,153)	14.35	
Outstanding at March 31, 2002	4,952,540	18.51	2,235,801
Available for grant at March 31, 2002		1,136,780	

Stock Purchase Warrants

The Company recorded an increase to additional paid-in capital and a corresponding charge to deferred warrant costs of approximately $336,000 in January 1998 related to the issuance of stock purchase warrants for 250,500 shares of common stock at an exercise price of $10.20 per share which become exercisable over a five-year period following the date of grant. These warrants, which have not been exercised, were granted in consideration of ongoing financial services being provided to the Company. Expense related to these warrants was approximately $67,000, $67,000 and $67,000 for the fiscal years ended March 31, 2002, 2001 and 2000, respectively.

The Company also granted warrants in 1996 and 1998 to the Electric Power Research Institute (EPRI). See Note 9.

8. Commitments

The Company rents its headquarters in Westborough, MA, under an operating lease, which expires in May 2009. In October 2000 the Company leased additional facilities in Westborough for the development of electric motor and generator technology under an operating lease that expires in 2005. The Company also rents operating facilities near Madison, WI, under two leases, which expire on December 31, 2003, and one facility near Milwaukee, WI, under a lease which expires in 2011. The Company has an option to extend the Madison, Wisconsin leases for additional five-year periods. As part of its restructuring, consolidation and cost cutting measures announced in March 2002, the Company will outsource its future requirements for low temperature superconductor (LTS) magnets used in its SMES systems and as a result will discontinue operations in one of its two buildings in Middleton, WI, comprising approximately 27,000 square feet. Under all leases, the Company pays for real estate taxes, certain insurance coverage and operating expenses.

Rent expense under the leases mentioned above were as follows:

	2002	2001	2000
Rent expense	$1,994,000	$1,435,000	$1,228,000

Minimum future lease commitments at March 31, 2002 were as follows:

For the years ended March 31	Total
2003	2,005,621
2004	2,765,292
2005	2,702,917
2006	2,697,837
2007	2,574,025

The Company had outstanding commitments related to the construction of its new HTS Wire manufacturing facility in Devens, Massachusetts of $5,033,000 at March 31, 2002.

9. Research and Development Agreements

The Company signed a new agreement with Pirelli in February 2002 giving the Company the right to sell HTS wire to other cable manufacturers in addition to Pirelli in exchange for a $2,250,000 one-time license payment, 50,000 shares of its stock (valued at $6.91/share), royalties on future such sales of wire, and the forgiveness of $1,375,000 of accounts receivable. The new agreement discontinued Pirelli's funding of the

Company's research and development effective January 1, 2002. Under the previous agreement, Pirelli provided the Company with $500,000 per quarter in research and development funding. Pirelli will, however, continue its participation in the Company's multi-filamentary composite wire product development programs through September 2003. The Pirelli alliance was originally established in February 1990; in the 12-year period between 1990 and March 31, 2002, the Company received development funding of approximately $23,100,000 from Pirelli.

In fiscal 1998, the Company entered into research and development contracts with Asea Brown Boveri (ABB) and EDF, an affiliate of which is a stockholder of the Company, to develop HTS wire for power transformers. The ABB and EDF agreements, each of which called for the payment of $5,000,000 in development fees to the Company over four years, were terminated in April 2000, with ABB having paid a cumulative total of $4,350,000 and EDF $4,450,000. The Company recorded revenues under these contracts as follows:

	2002	2001	2000
Pirelli	$1,500,000	$2,000,000	$4,250,000
ABB	—	—	1,050,000
EDF	—	—	1,050,000
	$1,500,000	$2,000,000	$6,350,000

In March 1996, the Company entered into a strategic alliance with the Electric Power Research Institute (EPRI) to develop and commercialize a coated conductor composite HTS wire. This agreement ended on March 31, 2000. In March 1996, under the first phase of the agreement, the Company granted a warrant for 100,000 shares of common stock (87,500 of which have been exercised) to EPRI at $14.00 per share which became exercisable over a five-year period following the date of grant. In March 1998, under the second phase of the agreement, the Company granted to EPRI another warrant to purchase 110,000 shares of common stock (41,250 of which have been exercised) of the Company at $13.94 per share, which become exercisable over the next five years. The Company will receive exclusive license rights to intellectual property from EPRI. The Company recorded an increase to additional paid-in capital and a corresponding charge to deferred contract costs of $618,000 and $637,000 in fiscal 1998 and 1997, respectively, relating to these warrants. Warrant expense related to these agreements was approximately $148,000, $234,000 and $314,000 for the fiscal years ended March 31, 2002, 2001 and 2000, respectively.

10. Cost sharing arrangements

The Company has entered into several cost-sharing arrangements with various agencies of the United States government. Funds paid to the Company under these agreements are not reported as revenues but are used to directly offset the Company's research and development and selling, general and administrative expenses, and to purchase capital equipment. The Company recorded costs and funding under these agreements of $1,206,000 and $603,000, respectively, for fiscal 2002, of $645,000 and $262,000, respectively, for fiscal 2001, and $3,971,000 and $1,967,000, respectively, for fiscal 2000. At March 31, 2002, total funding received to date under these agreements was $13,414,000. Future funding expected to be received under existing agreements is approximately $830,000 subject to continued future funding allocations.

11. Employee Benefit Plans

The Company has implemented a deferred compensation plan under Section 401(k) of the Internal Revenue Code. Any contributions by the Company are discretionary. The company instituted a stock match program in

July 1998 under which the Company matched 25% of the first 4% of eligible contributions to the plan. Effective July 1, 2000 this contribution increased to 25% of the first 6% of eligible contributions. Effective July 1, 2001 this contribution increased to 35% of the first 6% of eligible contributions. The Company recorded expense of $437,401, $234,472 and $128,687 in fiscal years 2002, 2001 and 2000, respectively, and corresponding charges to additional paid-in capital related to this program. The Company does not have post-retirement or post-employment benefit plans.

The Company instituted an employee stock purchase plan ("ESPP") on October 1, 2000. Employees purchase shares at a discount off fair market value every six months; this has no expense impact to the Company. Shares issued are recorded under "Issuance of Common Stock" in the Consolidated Statements of Stockholders Equity.

12. Restructuring and other charges

In the fourth quarter of fiscal 2002, the Company made two announcements which resulted in a combined charge of $13.9 million.

In March 2002, the Company announced a series of restructuring, consolidation and cost-cutting measures to create a more streamlined and flatter organization aimed at reducing the cost structure of the Company as it drives to commercialize its technologies and products. The Company incurred an aggregate charge of $9.9 million of restructuring and other charges, of which $3.5 million was inventory-related and was classified as "Costs of revenue—product sales and prototype development contracts" and $0.7 million was related to an allowance for doubtful accounts reserve and was classified as "Selling, general, and administrative" expense. The remaining $5.7 million is shown as "Restructuring costs" on the Consolidated Statements of Operations.

In addition, the Company announced a new agreement with Pirelli in February of 2002 in which the Company acquired the right to sell its HTS wire to other cable manufacturers in addition to Pirelli at a cost of $4.0 million.

The following paragraphs provide information relating to the restructuring charges and other charges that were recorded during the fourth quarter of fiscal 2002.

Workforce Reduction

The restructuring program resulted in the reduction of 99 full-time employees across all business functions at the Company's Massachusetts and Wisconsin locations. The workforce reductions were substantially completed in the fourth quarter of fiscal 2002, although nine affected employees were part of the Company's reported headcount as of March 31, 2002, and will conclude in another one to four months. The Company recorded a workforce reduction charge of $1.5 million relating primarily to severance and related benefits. These payments are expected to be substantially completed in the first quarter of fiscal 2003.

Consolidation of facilities and impaired fixed assets

The Company recorded a charge of $4.2 million relating to the consolidation of the Company's Power Quality and Reliability business unit based in Middleton, WI with its Power Electronics business unit based in New Berlin, WI, into one new business unit called Power Electronic Systems. The total charge includes $2.9 million related to the write-off of fixed assets and $0.7 million for a facility lease termination in Middleton, WI, planned for June 2002. The balance of $0.6 million relates to cancelled purchase commitments. All such costs were recorded as Restructuring costs.

The Company will outsource its future requirements for LTS magnets used in its SMES systems and as a result has discontinued operations in one of its two buildings in Middleton, Wisconsin comprising approximately 27,000 square feet.

Inventory write-downs

The Company recorded a charge of $3.5 million relating to the write-down of magnet inventory to its net realizable value. This inventory reserve provision was recorded as part of Costs of revenue – product sales and prototype development contracts.

Allowance for Doubtful Accounts

The Company also recorded a $0.7 million allowance for doubtful accounts provision, which is shown as part of selling, general and administrative expense, in connection with the product line consolidation.

Pirelli license costs

The Company recorded a one-time charge of $ 4.0 million relating to the announcement of a new license agreement with Pirelli to allow the Company to sell its HTS wire to other cable manufacturers in addition to Pirelli. The $4.0 million charge is shown as "Pirelli license costs" on the Consolidated Statements of Operations and is comprised of a $2.25 million one-time cash license payment, 50,000 shares of the Company's common stock (valued at $6.91/share) to be issued in fiscal 2003, and the forgiveness of $1.375 million of accounts receivable.

The restructuring charges and other charges recorded in the fourth quarter of fiscal 2002 are summarized below:

	Total Restructuring & other charges	Cash Payments	Other Adjustments	Balance as of March 31, 2002
Workforce Reduction	1,548,897	216,202	—	1,332,695
Consolidation of facilities, fixed asset write-offs, & other charges	4,117,161	—	2,929,741	1,187,420
Inventory Write-down	3,464,275	—	1,044,353	2,419,922
Allowance for Doubtful Accounts	727,028	—	727,027	—
Pirelli License	4,009,890	—	1,375,000	2,634,890
	13,867,251	216,202	6,076,121	7,574,928

The Company currently anticipates payments for the restructuring activities and other charges to be completed within fiscal 2003 except for certain long-term contractual obligations.

13. Business Segment Information

The Company has three reportable business segments as defined by SFAS 131—HTS Wire, Electric Motors and Generators, and the Power Electronic Systems.

Prior to the fourth quarter of fiscal 2002, the Company reported only two segments, with the HTS Wire and Electric Motors and Generators business units aggregated into one business segment, which we called HTS. The Company has now elected to report three distinct business segments consistent with how the Company manages operations and the relative stage of commercialization of its products and technologies.

The HTS Wire business segment develops and commercializes HTS wire. The focus of this segment's current development and manufacturing effort is on HTS wire for power transmission cables, motors and generators.

The Electric Motors and Generators business segment is developing and commercializing electric motors and generators based on HTS wire. Its primary focus is on ship propulsion motors and generators.

The Power Electronic Systems business segment develops and sells power electronic converters and designs, manufactures and sells integrated systems based on those converters for power quality and reliability solutions.

The operating results for the three business segments are as follows:

	Fiscal Year Ended March 31		
Revenues*	**2002**	**2001**	**2000**
HTS Wire	$ 4,394,285	$ 4,945,140	$ 9,906,368
Electric Motors and Generators	5,839,895	2,507,399	1,704,404
Power Electronic Systems	1,415,920	9,314,985	3,502,363
Total	$ 11,650,100	$ 16,767,524	$ 15,113,135

* See footnote 10. Cost share funding is not included in reported revenues.

Operating (loss)	**2002**	**2001**	**2000**
HTS Wire	$(26,143,475)	$(17,648,181)	$ (8,792,385)
Electric Motors and Generators	(7,747,637)	(8,209,870)	(3,656,474)
Power Electronic Systems	(25,818,528)	(6,943,149)	(5,788,754)
Unallocated corporate expenses	(1,843,204)	(1,594,368)	(1,235,101)
Total	$(61,552,844)	$(34,395,568)	$(19,472,714)

The assets for the three business segments (plus Corporate cash) are as follows:

	March 31,	
	2002	**2001**
HTS Wire	$102,010,166	$ 44,467,787
Electric Motors and Generators	6,424,532	4,034,116
Power Electronic Systems	21,160,616	31,199,906
Corporate cash and marketable securities	68,199,610	160,225,103
Total	$197,794,924	$239,926,912

Other significant segment information is as follows:

	Fiscal Year Ended March 31		
Depreciation and amortization	**2002**	**2001**	**2000**
HTS Wire	$3,776,152	$2,813,963	$1,698,317
Electric Motors and Generators	593,545	281,396	139,908
Power Electronic Systems	1,139,346	1,003,545	415,356
Total	$5,509,043	$4,098,904	$2,253,581

Captal expenditures	March 31, 2002	March 31, 2001
HTS Wire	$60,694,504	$31,705,533
Electric Motors and Generators	373,174	1,459,797
Power Electronic Systems	2,054,498	2,915,591
Total	$63,122,176	$36,080,921

The accounting policies of the business segments are the same as those described in Note 2, except that certain corporate expenses which we do not believe are specifically attributed or allocable to either business segment have been excluded from the segment operating loss.

14. Quarterly Financial Data (Unaudited)

	Fiscal year ended March 31, 2002:			
Three Months Ended	June 30, 2001	September 30, 2001	December 31, 2001	March 31, 2002*
Total Revenues	$ 1,659,000	$ 3,257,000	$ 3,533,000	$ 3,201,000
Operating (loss)	$(11,072,000)	$(10,473,000)	$(11,545,000)	$(28,463,000)
Net loss	$ (9,044,000)	$ (9,116,000)	$(10,884,000)	$(27,941,000)
Net loss per common share	$ (0.44)	$ (0.45)	$ (0.53)	$ (1.37)

	Fiscal year ended March 31, 2001:			
Three Months Ended	June 30, 2000	September 30, 2000	December 31, 2000	March 31, 2001
Total Revenues	$ 3,924,000	$ 4,718,000	$ 5,607,000	$ 2,519,000
Operating (loss)	$(7,956,000)	$(8,557,000)	$(7,279,000)	$(10,604,000)
Net loss	$(4,457,000)	$(5,045,000)	$(4,130,000)	$ (8,044,000)
Net loss per common share	$ (0.22)	$ (0.25)	$ (0.20)	$ (0.41)

* See discussion on restructuring and other charges in footnote 12.

15. New Accounting Pronouncements

In October 2001, the FASB issued Statement of Financial Accounting Standards No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets" ("SFAS 144"). SFAS 144 supercedes SFAS No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed of." SFAS 144 applies to all long-lived assets (including discontinued operations) and consequently amends Accounting Principles Board Opinion No. 30, "Reporting Results of Operations—Reporting the Effects of Disposal of a Segment of a Business". SFAS 144 is effective for financial statements issued for fiscal years beginning after December 15, 2001, and thus becomes effective for the Company on April 1, 2002. Management believes the future impact on our financial statements as a result of this interpretation will not be material.

In November 2001, the Emerging Issues Task Force (EITF), a committee of the FASB, reached a consensus on EITF Issue 01-9, *Accounting for Consideration Given by a Vendor to a Customer or Reseller of the Vendor's Products* ("EITF 01-9"). EITF 01-9 presumes that consideration, including equity instruments, from a vendor to a customer or reseller of the vendor's products is a reduction of the selling prices of the vendor's products and, therefore, should be characterized as a reduction of revenue when recognized in the vendor's income statement and could lead to negative revenue under certain circumstances. Revenue reduction is required unless

consideration relates to a separate identifiable benefit and the benefit's fair value can be established. EITF 01-9 is applicable for the Company as of April 1, 2002. The Company does not currently expect the adoption of EITF 01-9 to have a material impact on its financial position or results of operations.

During January 2002, the EITF reached consensus on EITF Issue 01-14, *Income Statement Characterization of Reimbursements Received for 'Out-of-Pocket' Expenses Incurred* ("EITF 01-14"). The EITF concluded in EITF 01-14 that reimbursements received for out-of-pocket expenses incurred should be characterized as revenue in the income statement with the offsetting costs recorded as costs of revenue. Out-of-pocket expenses generally include, but are not limited to, expenses related to airfare, mileage, hotel stays, out-of-town meals, photocopies, and telecommunications and facsimile charges. EITF 01-14 is applicable for the Company as of April 1, 2002. Upon adoption, reclassification of all prior period amounts is required to conform to the current period presentation. The Company does not currently expect the adoption of EITF 01-14 to have a material impact on its financial position or results of operations.

OFFICERS, DIRECTORS AND FOUNDERS

Board of Directors

Gregory J. Yurek, Ph.D.
President, Chief Executive Officer and
Chairman of the Board

Albert J. Baciocco, Jr.
Vice Admiral, U.S. Navy (Retired)
President, The Baciocco Group, Inc.

Colonel Frank Borman
President, Patlex Corporation

Clayton M. Christensen
Professor of Business Administration,
Harvard Business School

Peter O. Crisp
Vice Chairman,
Rockefeller Financial Services, Inc.

Richard Drouin, O.C., Q.C.
Counsel, McCarthy Tetrault
Former Chairman and Chief Executive Officer,
Hydro-Québec

Gérard Menjon
Project Leader, Energy Research
Institute, Electricité de France

Andrew G.C. Sage, II
President, Sage Capital Corporation

John B. Vander Sande, Ph.D.
Cecil and Ida Green Distinguished Professor
Department of Materials Science and Engineering
Director, Cambridge-MIT Institute
Massachusetts Institute of Technology

Executive Officers

Gregory J. Yurek, Ph.D.
President, Chief Executive Officer and
Chairman of the Board

Alexis P. Malozemoff, Ph.D.
Senior Vice President and
Chief Technical Officer

Stanley D. Piekos
Senior Vice President, Corporate Development,
Chief Financial Officer, Secretary and Treasurer

David Paratore
Vice President and General Manager,
Electric Motors and Generators Business Unit

Eric E. Snitgen
Vice President and General Manager,
HTS Wire Business Unit

Charles W. Stankiewicz
Vice President and General Manager,
Power Electronic Systems Business Unit

Ross S. Gibson
Vice President and Chief Administrative Officer

Jeffrey J. Nestel-Patt
Vice President, Corporate Communications

Thomas M. Rosa
Chief Accounting Officer, Corporate Controller,
And Assistant Secretary

Founders

Yet-Ming Chiang, Ph.D.
Kyocera, Professor of Ceramics
Department of Materials Science
Massachusetts Institute of Technology

David A. Rudman, Ph.D.
Project Leader
Electro Magnetic Technology Division
National Institute of Technologies and Standards

John B. Vander Sande, Ph.D.
(see above)

Gregory J. Yurek, Ph.D.
(see above)

NOTES

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COMMON STOCK LISTINGS

Nasdaq National Market
Symbol: AMSC

PRICE RANGE OF COMMON STOCK

The quarterly range of high and low sales prices of the company's common stock for fiscal 2001 and 2002 is shown below:

Fiscal 2001	High	Low
First quarter	51.00	19.63
Second quarter	61.88	30.38
Third quarter	55.94	22.50
Fourth quarter	34.88	13.25

Fiscal 2002	High	Low
First quarter	27.90	10.75
Second quarter	24.50	8.35
Third quarter	14.00	8.65
Fourth quarter	13.58	6.50

ANNUAL MEETING

The annual meeting of stockholders will be held at 9:00 a.m. on Friday, July 26, 2002 at American Superconductor's HTS wire manufacturing facility, 64 Jackson Road, Devens, MA.

TRANSFER AGENT AND REGISTRAR

American Stock Transfer & Trust Company
40 Wall Street
New York, NY 11219
800-937-5449

The transfer agent is responsible for handling shareholder questions regarding lost certificates, address changes, changes of ownership or name in which shares are held. As of June 7, 2002 there were 671 holders of record of common stock.

LEGAL COUNSEL

Hale and Dorr LLP
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Boston, MA 02109

AUDITORS

PricewaterhouseCoopers LLP
One Post Office Square
Boston, MA 02109

FORM 10-K

The text of the company's annual report on form 10-K for the fiscal year ended March 31, 2002, as filed with the Securities and Exchange Commission, is included herein.

American Superconductor, its logo and PowerModule are trademarks of American Superconductor Corporation.

Any statements in this annual report that relate to future expectations or events – including statements regarding development, manufacturing and commercialization dates and benchmarks, and other statements containing words such as "plans", "expects", "anticipates" and "intends" – constitute forward-looking statements within the meaning of the Private Securities Litigation reform Act of 1995. There are a number of important factors that could cause actual results to differ materially from those suggested by these forward-looking statements. Please refer to the "Future Operating Results" section of this company's annual report on form 10-K, included as a part of this annual report, for a discussion of such factors.

American Superconductor™

REVOLUTIONIZING THE WAY THE WORLD USES ELECTRICITY™

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