ENOVA SYSTEMS INC
Form 10-K
March 31, 2005

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 and Exchange Act of 1934

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

For the fiscal year ended December 31, 2004

Commission File No. 0-25184

ENOVA SYSTEMS, INC.
(Exact name of registrant as specified in its charter)

California	95-3056150
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

19850 South Magellan Drive, Torrance, California 90502
(Address of principal executive offices, including zip code)

(310) 527-2800
(Registrant's telephone number, including area code)

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

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

Common Stock, no par value
(Title of class)

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 the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [ ]

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act). Yes [ ] No [X]

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant as of June 30, 2004 (the last business day of the registrant's more recently completed second quarter) was $7,958,000. For purposes of this calculation only, (i) shares of Series A and Series B Preferred Stock have been included in the calculation, (ii) shares of Common Stock and

Series A Preferred Stock are deemed to have a market value of $0.06 per share, and the Series B Preferred Stock is deemed to have a market value of $0.12 per share, based on the average of the bid and ask prices of the Common Stock on June 30, 2004, and (iii) each of the executive officers, directors and persons holding 5% or more of the outstanding Common Stock (including Series A and B Preferred Stock on an as-converted basis) is deemed to be an affiliate.

The number of shares of Common Stock outstanding as of March 30, 2005 was 415,601,000.

ENOVA SYSTEMS, INC.

2004 FORM 10-K ANNUAL REPORT

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PART I

The matters addressed in this report on Form 10-K, with the exception of the historical information presented, may contain certain forward-looking statements involving risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including those set forth under the heading "Certain Factors That May Affect Future Results" in the Management's Discussion and Analysis section and elsewhere in this report.

Item 1. Business

General

In July 2000, we changed our name to Enova Systems, Inc. Our company, previously known as U.S. Electricar, Inc., a California corporation (the "Company"), was incorporated on July 30, 1976.

Enova believes it is a leader in the development and production of proprietary, commercial digital power management systems for transportation vehicles and stationary power generation systems. Power management systems control and monitor electric power in an automotive or commercial application such as an automobile or a stand-alone power generator. Drive systems are comprised of an electric motor, an electronics control unit and a gear unit which power an electric vehicle. Hybrid systems, which are similar to pure electric drive systems, contain an internal combustion engine in addition to the electric motor, eliminating external recharging of the battery system. A hydrogen fuel cell based system is similar to a hybrid system, except that instead of an internal combustion engine, a fuel cell is utilized as the power source. A fuel cell is a system which combines hydrogen and oxygen in a chemical process to produce electricity. Stationary power systems utilize similar components to those which are in a mobile drive system in addition to other elements. These stationary systems are effective as power-assist or back-up systems, alternative power, for residential, commercial and industrial applications.

A fundamental element of Enova's strategy is to develop and produce advanced proprietary software, firmware and hardware for applications in these alternative power markets. Our focus is digital power conversion, power management, and system integration, for two broad market applications - vehicle power generation and stationary power generation.

Specifically, we develop, design and produce drive systems and related components for electric, hybrid-electric, fuel cell and microturbine-powered vehicles. We also develop, design and produce power management and power conversion components for stationary distributed power generation systems. These stationary applications can employ hydrogen fuel cells, microturbines, or advanced batteries for power storage and generation. Additionally, we perform research and development to augment and support others' and our own related product development efforts.

Our product development strategy is to design and introduce to market

successively advanced products, each based on our core technical competencies. In each of our product / market segments, we provide products and services to leverage our core competencies in digital power management, power conversion and system integration. We believe that the underlying technical requirements shared among the market segments will allow us to more quickly transition from one emerging market to the next, with the goal of capturing early market share.

Enova's primary market focus centers on both series and parallel heavy-duty drive systems for multiple vehicle and marine applications. We believe series-hybrid and parallel hybrid heavy-duty drive system sales offer Enova the greatest return on investment in both the short and long term. Additionally, Enova management believes that this area will see significant growth over the next several years. As we penetrate more market areas, we are continually refining and optimizing both our market strategy and our product line to maintain our leading edge in power management and conversion systems for mobile applications.

Our website, www.enovasystems.com, contains up-to-date information on us, our products, programs and current events. We are implementing an aggressive strategy to utilize our website and the internet as a prime focal point for current and prospective customers, investors and other affiliated parties seeking data on us.

During 2004, we experienced a slowdown in sales due to a number of internal and external developments. Internally, we reorganized our senior management by moving our vice president of marketing and sales, Edward Moore, to the position of Chief Operating Officer, which resulted in an interim period without a dedicated sales executive. During the fourth quarter of 2004, we selected Michael Staran to head our marketing department. Additionally, we appointed Edwin Riddell, a director of Enova since 1994, to the position of president and Chief Executive Officer to replace Carl Perry during the third quarter of 2004. Mr. Perry was appointed as our Vice-Chairman. We believe our market focus is more defined with sales and market potential improving during 2005. In 2004, we also continued to see our current and prospective customers seek more development programs, or evaluation systems, than actual demand for production systems. We believe this trend is the reason our current customers ordered additional drive systems and components in the first quarter of 2005 with forecasts to order more during the next three fiscal quarters of 2005. We anticipate potential customers will use references from our current customer base in their decision process which may lessen order cycle timing and increase sales volume.

Our decreases in production and development revenues are primarily a result of an ongoing slowdown in heavy-duty alternative fuel drive system sales as manufacturers assess the various new types of systems on the market. There has been a greater shift to parallel hybrid type systems. As yet, however, no particular type of systems has gained a major foothold in the marketplaces in which we compete. Management's strategy in this regard is to provide a dual path approach in offering both a series and parallel hybrid drive systems solution which we commenced in 2004. We have developed or are developing a variety of heavy-duty drive system solutions including our series hybrid drive system featuring our diesel generator set; a post-transmission parallel hybrid system and two variations of a pre-transmission parallel hybrid drive system. Many of these systems are currently being utilized in our customer's trucks and buses such as the Mack R-11 refueler vehicle which utilizes our post-transmission parallel hybrid and WrightBus of the United Kingdom's 10m bus which utilizes our series hybrid drive system.

Additionally, to offset this temporary decline in production sales, we

continue to pursue privately and governmental funded development programs. This allows us to increase our revenue base, form new alliances with major OEMs and participate in the latest trends in alternative fuel technologies. The decrease in R&D revenues for the year ended December 31, 2004 is primarily due to customer requirement slippage during the year, all of which, we believe, will be realized in 2005. Research and development revenues are a result of engineering services for the Mack/Volvo hybrid drive system, the EDO minesweeper project, the First Auto Work (FAW) parallel hybrid program and various Hawaii Center for Advanced Transpiration Technologies (HCATT) programs.

We continue to receive greater recognition from both governmental and private industry with regards to both commercial and military application of its hybrid drive systems and fuel cell power management technologies. Although we believe that current negotiations with several parties may result in development and production contracts during 2005 and beyond, there are no assurances that such additional agreements will be realized.

During 2004, we continued to advance its technologies and products for greater market penetration for 2005 and beyond. We continue to develop independently and in conjunction with the Hyundai-Enova Innovative Technology Center's (ITC) progress on several fronts to produce commercially available heavy-duty, series and parallel hybrid drive systems. Enova continued its expansion into the Chinese hybrid vehicle markets by securing contracts for hybrid buses and trains in China and Singapore, respectively. In July of 2004, we entered into an agreement with Tomoe and Hyundai Heavy Industries of Korea for the development and production of eight, 36-ton battery electric locomotives for the Singapore Land Transport Authority for anticipated delivery in late 2005 to early 2006.

During the year ended December 31, 2004, we continued to develop and produce electric and hybrid electric drive systems and components for Mack/Volvo, First Auto Works of China, Ford Motor Company (Ford), Wright Bus and Eneco of the United Kingdom, and Tomoe of Japan and several other domestic and international vehicle and bus manufacturers.

Our various electric and hybrid-electric drive systems, power management and power conversion systems are being used in applications including Class 8 trucks, train locomotives, transit buses and industrial vehicles as well as in non-transportation applications such as fuel-cell management and power management systems, including the EDO minesweeper. We have furthered its development and production of systems for both mobile and stationary fuel cell powered systems with major companies such as Ford and Hydrogenics, a fuel cell developer in Canada.

Our potential in China is growing with the addition of two (2) more bus manufacturers, First Auto Group (FAW) and Top-Electric. Our contract with FAW is for the development and evaluation of a parallel hybrid drive system for buses, in conjunction with the proposed/possible production of up to 1,000 hybrid vehicles for the 2008 Summer Olympics in Beijing. The development contract is scheduled to run through early/mid 2005 to deliver three pre-transmission parallel hybrid motors and controllers. FAW has discussed ordering three additional systems in mid 2005 upon completion of the evaluation of the initial systems. Successful completion of this project could lead to additional development and production contracts with FAW, however, we cannot assure that such additional orders will be forthcoming.

For the year ended December 31, 2004, the following customers accounted for more than ten percent (10%) of our total revenues:

Customer	Percent
Ford Motor Company	16.0%

EDO New York	13.0%
Hyundai Motor Company	10.0%

Heavy-Duty Drive Systems - Buses, Trucks, Vans and Other Industrial Vehicle Applications

Enova's primary market focus centers on both series and parallel heavy-duty drive systems for multiple vehicle and marine applications. We believe series-hybrid and parallel hybrid heavy-duty drive system sales offer

Enova the greatest return on investment in both the short and long term. Although this market sector has developed more slowly than anticipated, management believes that this area will see significant growth over the next several years. As the Company penetrates more market areas, we are continually refining and optimizing both our market strategy and our product line to maintain our leading edge in power management and conversion systems for mobile applications.

During 2004, we introduced our latest hybrid, the HybridPower Series Hybrid, at the Electric Drive Transportation Association's annual symposium in Orlando Florida. Enova's new diesel generator set, the power component within the hybrid drive system, delivers 60 kilowatts volts of continuous power, enabling it to integrate seamlessly with Enova's 240kW or 120kW drive motors and other digital power management components. The series hybrid genset consists of a 60kW electric motor, a motor controller and a diesel engine meeting stringent Euro 3 or Euro 4 emission specifications. The genset is distinctively designed to allow end users to choose the engine best suited for their commercial needs, permitting a wide variety of engine choices.

In early 2004, we sold three HybridPower 120kW drive systems to Tsinghua University in China for fuel cell hybrid bus development. China intends to use hybrid-electric buses to shuttle athletes and guests at the 2008 Beijing Summer Olympics and the 2010 World's Expo in Shanghai. China is seeking up to 1,000 full-size hybrid-electric buses to support these global events. We believe Tsinghua is the premier research university in China. Its automotive engineering department selected Enova's drive systems for its government funded hybrid fuel cell bus development. In July 2004, Enova completed negotiations for two development and production contracts for Asian markets. Enova continued its expansion into the Chinese hybrid vehicle markets by securing contracts for hybrid buses and trains in China and Singapore respectively. Enova's potential in China is growing with the addition of two more bus manufacturers, First Auto Works (FAW) and Top-Electric. FAW entered into an agreement with us to purchase three medium-duty, parallel hybrid drive systems, the first of which was delivered in late 2004. Enova now sells its hybrid drive systems to three bus developers in China, including Tsinghua University of China. Management believes that these development and initial production programs will result in additional production contracts during 2005 and beyond; however at this time; there are no assurances that such additional contracts will be consummated.

In Japan, Tomoe Electro-Mechanical Engineering and Manufacturing, Inc. has entered into a development and production contract with Enova for eight battery-electric locomotives for the Singapore Land Transport Authority for service vehicles for the Singapore Mass Rapid Transit Circle Line system for maintenance, repair, shunting and recovery of passenger trains. Over the last several years, Enova successfully integrated its HybridPowerTM drive systems into Tomoe's heavy-duty Isuzu dump truck application, three passenger trams and

a mine tunnel crawler. It is anticipated that the hybrid drive train components will begin being delivered in late 2005 at Tomoe's Japan-based facilities. Enova anticipates the total contract to exceed US$3 million over the life of the contract. This latest market penetration in Asia enhances not only Enova's alliances with both Tomoe and HHI, but also advances Enova's hybrid-electric technologies in high voltage power management components. As part of this contract, Enova will develop a high voltage charging system to enable the locomotive to receive a direct battery charge from the high voltage rail. Tomoe and Enova continue to develop other commercial and industrial applications for our drive systems, including potential light rail applications. During the first quarter of 2005, Tomoe issued a purchase order for three post transmission parallel hybrid drive systems for another train project in South Korea. For the year ended December 31, 2004 we billed approximately $175,000 for these various systems. Although we anticipate additional orders for these systems in 2005 and beyond, there are no assurances that such additional orders will be forthcoming.

WrightBus, one of the largest low-floor bus manufacturers in the United Kingdom, continues to purchase our diesel genset-,powered, series hybrid drive systems for their medium and large bus applications. WrightBus ordered 4 120kW drive systems and one 240kW drive system in 2004 for a total of $166,000. In late 2004, we entered into an exclusive agreement with WrightBus for the sale of certain Enova products for specific vehicles in the United Kingdom. WrightBus has issued additional purchase orders for product in 2005 and notified us of their potential requirements for 2005 through 2007. At this time, however, there are no assurances that such additional orders will be forthcoming.

Eneco of the United Kingdom, a vehicle integrator which utilizes Enova's HybridPower 120kW drive systems in its hybrid bus applications, purchased six 120kW systems in 2004 for a total of $170,000. Eneco has notified us of its plans to order additional 120kw systems in 2005 for its bus programs. At this time, however, there are no assurances that such additional orders will be forthcoming.

EcoPower Technology of Italy continues to purchase components for its hybrid electric drive systems during 2004 for service and maintenance parts for its fleet of buses powered by HybridPowerTM 120kw drive systems. Since our teaming with EcoPower, we have sold 42 drive systems forming one of the largest fleets of hybrid buses in the world. EcoPower is one of the largest integrators of medium size transit buses for the European shuttle bus market, with key customers in five Italian cities namely Turin, Genoa, Brescia, Ferrara and Vicenza. EcoPower notified Enova of its requirements for additional drive systems in 2005, however, there are no assurances that such additional orders will be forthcoming.

MTrans of Malaysia has integrated two of our standard HybridPower 120kW drive system into a hybrid 10-meter bus with a Capstone microturbine as its power source. MTrans has discussed the potential of utilizing Enova drive systems for all of its hybrid and monorail requirements in 2005 and beyond. At this time, however, there are no assurances that such additional orders will be forthcoming.

Additionally, we are in discussions with other bus manufacturers and industrial, commercial and military vehicle manufacturers regarding the purchase of our heavy-duty, high performance, 120kW and 240kW drive systems in 2005. There are no assurances, however, that these discussions will result in any sales of the HybridPower 240kW or 120kW drive systems.

Light-Duty Drive Systems - Automobiles and Delivery vehicles

Our 90kW controller, motor and gear unit is utilized in light duty vehicles such as midsize automobiles and delivery vehicles. The topology of this system is being adapted to also be utilized as a parallel hybrid motor and controller system. We are beginning to receive more interest in our light-duty systems from both European and Asian customers.

Eneco of the United Kingdom, a vehicle integrator which utilizes Enova's HybridPowerTM 120kW drive systems in its hybrid bus applications, purchased two HybridPowerTM 90kW drive systems for integration into delivery vans.

Our 90kW motor controller is also utilized in the parallel hybrid drive system designed for FAW. In conjunction with the 90kW motor, FAW and Enova are evaluating this latest employ of our hybrid technologies. As noted earlier, we anticipate additional demand for these systems. At this time, however, there are no assurances that such additional orders will be forthcoming.

We continue to cross-sell our systems to new and current customers in the light and medium duty vehicle markets, both domestically and globally.

Fuel Cell Technologies

The High Voltage Energy Converter (HVEC) development program with Ford Motor Company for their fuel cell vehicle was essentially completed in 2003. This converter is a key component in Ford's Focus Fuel Cell Vehicle (FCV) which utilizes the Ballard fuel cell system. It converts high voltage power from the fuel cell into a lower voltage for use by the drive system and electronic accessories. Enova delivered 8 additional HVEC production systems to Ford in 2004 valued at approximately $100,000. These systems will be integrated into the Ford Focus FCV which will be part of an evaluation program being implemented by Ford in 2005. There is a potential for additional production orders for HVEC units from Ford in 2005 and beyond; however, at this time, there are no assurances that such additional orders will be forthcoming.

Furthermore, we are applying the technology and components derived from this program to other applications. The HVEC is a critical component of our Fuel Cell bus programs and other fuel cell powered systems such as the Hyundai fuel cell vehicle. Both of these projects are further detailed in the research and development programs section.

Enova's fuel cell enabling components are part of the proposed fleets of fuel cell vehicles being utilized by both Ford Motor Company - the Ford Focus FCV- and Hyundai Motor Company - the Hyundai Tucson fuel cell hybrid electric vehicle - in response to the U.S. Department of Energy's solicitation, entitled "Controlled Hydrogen Fleet and Infrastructure Demonstration and Validation Project." This government-funded project, which commenced in late 2004, will last over five years evaluating the economic and performance feasibility of fuel cell vehicles and infrastructure across the U.S.

The Company will continue to explore new applications for this versatile technology in both mobile and stationary systems.

Research and Development Programs

We continue to aggressively pursue government and commercially sponsored development programs for both ground and marine heavy-duty drive system applications.

Our program with Mack Truck, Inc., Powertrain division - a unit of The

Volvo Group, Sweden, for the development and manufacture of a motor controller, electric motor and battery management systems for a new parallel hybrid drive system continues on schedule. The new parallel hybrid vehicle program is part of the Air Force's efforts to improve efficiency, reduce fuel and maintenance costs, provide re-generative brake energy and reduce emissions. The refueler fleet consists of approximately 300 vehicles and, upon successful completion and evaluation of the refueler vehicle, there is the potential for additional upgrades to the parallel hybrid drive system. As part of the program, Mack Trucks will also evaluate the applicability of the drive system to commercial vehicles commencing with its Class 8 Refuse Hauler. Mack Trucks currently produces approximately 3,000 refuse vehicles per annum for major customers such as Waste Management. This development program is anticipated to be completed in mid 2005 followed by an evaluation period of approximately three to nine months. The program generated $150,000 in revenues for us in 2004. This program has opened several avenues within Mack and Volvo for Enova to develop and manufacture advanced drive system components. However, at this time, there are no assurances that such additional orders will be forthcoming.

Our development contract with EDO Corporation of New York for the design and fabrication of a high voltage DC-DC power conversion system utilizing a Capstone microturbine as the primary power source for the U.S. Navy unmanned minesweeper project also continues to progress during the first quarter of 2004.

The electronics package will include Enova's advanced power components including a new, enhanced 50V, 700A DC-DC power converter, our Battery Care Unit and Hybrid Control Unit which will power the minesweeper's electromagnetic detection system. Our power management and conversion system will be used to provide on-board power to other accessories on the platform. During the second quarter of 2004, Enova completed and presented the hardware to EDO, which is now undergoing functional testing. We believe that the aggregate value of the program will be approximately $420,000, of which $342,000 was received in 2004. Although this program also has the potential for additional system sales following the demonstration phase, there are no assurances that such additional orders will be forthcoming.

The all-electric Hyundai Santa Fe SUV demonstration project in Honolulu Hawaii is nearing its completion in June 2005 for three of the vehicles. Fast-charging capabilities and performance will be the primary focus of this continued evaluation. This is a continuation of the State of Hawaii and Hyundai Motor Company's program for pure electric vehicle performance.

Enova continues its development for Hyundai Motor Company (HMC) of the fuel cell power management and conversion components for Hyundai's latest fuel cell hybrid electric vehicle, the Tucson, which was unveiled at the Geneva Auto Show in March 2004. During the second quarter of 2004, Enova completed the development of this next generation hybrid-electric motor and control unit based on its prior development work on both light and heavy-duty power-trains for both electric and hybrid-electric vehicle platforms. During 2004, we delivered 8 systems to HMC for test, evaluation and integration into vehicles. Enova is working in conjunction with UTC Fuel Cells, part of the UTC Power unit of United Technologies Corporation, to develop the power electronics for this vehicle. During 2004, this program generated $250,000 in revenues from development and hardware sales. Although we believe there is potential for further production of these drive system components and other development programs in 2005, there can be no assurances at this time that such orders will be realized.

In the fourth quarter of 2004, Enova completed the design and integration of its 120kw drive system with a Capstone microturbine into a MB4

tow tractor for the U.S. Air Force through a contract with the Volpe National Transportation Systems Center. The objectives of this program include the integration of microturbine technology into the hybrid electric tow tractor, field testing and evaluation of the benefits of microturbine technology in a hybrid electric vehicle, integration of grid-charging technology, DC-DC converter, and a data acquisition system into an electric tow tractor, and validation of the technology effect on the original system and performance. During 2004, the program generated $165,000 in revenues for Enova. There is a potential for other upgrades of this type and we anticipate entering into more of these contracts in 2005 with the U.S. Air Force. There can be no assurances at this time, however, that such contracts will be realized.

We also commenced a program with Hydrogenics to integrate a HybridPower 120kW hybrid drive system into a step-van for Purolator as a hydrogen fuel cell hybrid vehicle. In integrating this new system, we utilized several new power management systems including our dual 8kW inverter and our Mobile Fuel Cell Generator that utilizes our High Voltage Converters. This fuel cell vehicle application utilized a Hydrogenics 20kW fuel cell power generation module underscoring our technologies ability to optimize fuel cell performance across a range of fuel cell products. The program is in its final stage of evaluation. As a result of this program, we have also commenced a similar fuel cell step van conversion program for HCATT and the U.S. Air Force.

Also in the fourth quarter of 2004, we commenced integration of a fuel cell powered step-van similar to the aforementioned Hydrogenics program for HCATT and the U.S. Air Force. The program is scheduled to continue through the third quarter of 2005 ending with an evaluation phase. We are experiencing a notable increase in interest from both government and military organizations for our products and integration services. For the year ended December 31, 2004, we billed approximately $96,000 for all of our HCATT programs.

We intend to establish new development programs with the Hawaii Center for Advanced Transportation Technologies in mobile and marine applications as well as other state and federal government agencies as funding becomes available.

Stationary Power Applications

Enova continues to attract new partners and customers from both fuel cell manufacturers and petroleum companies. It is our belief that utilizing our power management systems for stationary applications for fuel cells will open new markets for our Company.

We believe the stationary power market will play a key role in our future. We continue to pursue alliances with leading manufacturers in this area. There are, however, no assurances that this market will develop as anticipated or that such alliances will occur.

Environmental Initiatives and Legislation

Because vehicles powered by internal combustion engines cause pollution, there has been significant public pressure in Europe and Asia, and enacted or pending legislation in the United States at the federal level and in certain states, to promote or mandate the use of vehicles with no tailpipe emissions ("zero emission vehicles") or reduced tailpipe emissions ("low emission vehicles"). We believe legislation requiring or promoting zero or low emission vehicles is necessary to create a significant market for electric vehicles. The California Air Resources Board (CARB) is continually modifying its

limits for low emission vehicles. Recently, CARB proposed additional amendments to the regulations. Furthermore, several car manufacturers have challenged these mandates in court and have obtained injunctions to delay these mandates. There can be no assurance that further legislation will be enacted or that current legislation or state mandates will not be repealed or amended, or that a different form of zero emission or low emission vehicle will not be invented, developed and produced, and achieve greater market acceptance than electric vehicles. Extensions, modifications or reductions of current federal and state legislation, mandates and potential tax incentives could adversely affect our business prospects if implemented.

Our products are subject to federal, state, local and foreign laws and regulations, governing, among other things, emissions as well as laws relating to occupational health and safety. Regulatory agencies may impose special requirements for implementation and operation of our products or may significantly impact or even eliminate some of our target markets. We may incur material costs or liabilities in complying with government regulations. In addition, potentially significant expenditures could be required in order to comply with evolving environmental and health and safety laws, regulations and requirements that may be adopted or imposed in the future.

Strategic Alliances, Partnering and Technology Developments

Our continuing strategy is to adapt ourselves to the ever-changing environment of alternative power markets for both stationary and mobile applications. Originally focusing on pure electric drive systems, we believe we are now positioned as a global supplier of drive systems for electric, hybrid and fuel cell applications. Enova is now entering stationary power markets with its power management systems and intends to develop other systems to monitor and control the complex fuel cell and ancillary device systems being developed for distributed generation and mobile applications.

Enova continues to seek and establish alliances with major players in the automotive, stationary power and fuel cell fields. For instance, the Hyundai Group of Korea and Enova are partnering in the development of advanced hybrid and hydrogen fuel cell drive-train technology and related systems.

Enova's alliances with other major OEMs in the automotive, transit, commercial and energy sectors continue to expand. In 2004, Enova entered the Chinese hybrid vehicle market with alliances with First Auto Works and Tsinghua University for heavy-duty hybrid drive systems and technologies. Additionally, we expanded on our alliances with Mack/Volvo, Tomoe, Hyundai Motor Company (HMC), MTrans of Malaysia, Eneco, Hydrogenics of Canada, the Southwest Research Institute, the U.S. Air Force and other commercial and industrial intermediaries and OEMs to find new markets and applications for our products and technologies. We continue our strategy as a "systems integrator" by establishing relationships to utilize other independently developed technologies such as those provided by HHI, UTC Fuel Cells, Hydrogenics and national universities. We have implemented our plans to outsource manufacturing of our components to companies such as HHI, Ricardo, and other Asian manufacturers. We believe that one of our competitive advantages is our ability to identify, attract and integrate the latest technology available to produce state of the art products at competitive prices.

Our joint venture alliance with Hyundai Heavy Industries (HHI) is a prime example of our partnering strategy to maximize the utilization of Enova's knowledge and expertise in power management and control. Teaming with HHI may lead to other additive technologies and products which Enova can market to current and prospective customers. The joint venture corporation, Hyundai-Enova Innovative Technology Center (ITC), commenced operations in the second quarter of 2003. The advanced technology center focuses on leading-edge technologies in

power management and power conversion for industrial, commercial, residential and vehicle applications. The ITC has been instrumental in bringing our diesel genset system into commercialization. Other projects slated for development for the ITC include commercial inverters and other power management systems which build on Enova's and HHI's technology base. It is our intent to utilize the resources provided through the ITC to optimize Enova's current product line for greater performance and production cost efficiencies, while we continue new research and development for the next generation of digital power management systems for mobile and stationary applications.

Products

Our focus is digital power management, power conversion, and system integration. Our proprietary software, firmware and hardware manage and control the power that drives a vehicle or device produced under the HybridPowerTM brand name. They convert the power into the appropriate forms required by the vehicle or device, whether DC to AC, AC to DC or DC to DC, and they manage the flow of this energy to protect the battery, the vehicle or device, and the driver or operator. Our systems work "from drive train to drive wheel" for both vehicle and stationary applications.

The latest state-of-the-art technologies, such as hybrid vehicles, fuel cell and micro turbine based systems, and stationary power generation, all require some type of power management and conversion mechanism. Enova, utilizing our enabling technologies, supplies these essential components. We believe our drive train systems will work with any kind of fuel/power source, from electric to hybrid to fuel cell to turbine. They are essential components for any vehicle, system or device that uses power.

We are moving to expand its product base into new markets outside of the traditional electric and hybrid-electric automotive fields. Key areas which we have begun to penetrate include energy management in distributed generation in the utility industry, and stand-by/backup power generation in the commercial electronics industry. Both of these markets can be served with our existing energy management and power control products. We have entered into agreements, or commenced negotiations, with various alternative power generation manufacturers such as Hydrogenics, Capstone Turbine and Ballard Power as well as others. We believe our enabling technologies will prove beneficial to these types of companies in their strategies to bring these new power systems to commercialization.

We have embraced fuel cell technology and have begun to develop various power management and control systems to enable fuel cell manufacturers and their ancillary industries to achieve greater efficiencies from their systems. These systems are also designed to provide added reliability and safety by monitoring, adjusting and reporting on operation of the unit.

HybridPowerTM Electric and Hybrid-Electric Drive Systems

Enova's HybridPower drive system family, along with its drive system accessories are designed to provide our customers with a complete solution to their drive system needs for both light-duty through heavy-duty vehicle markets. Enova's HybridPower hybrid electric drive system provides all the functionality one would find under the hood of an internal combustion engine powered vehicle. The HybridPower system consists of an enhanced electric motor and the electronic controls that regulate the flow of electricity to and from the batteries at various voltages and power to propel the vehicle. In addition to the motor and controller, the system includes a gear reduction/differential unit which ensures the desired propulsion and performance. The system is designed to be installed

as a "drop in," fully integrated turnkey fashion, or on a modular, "as-needed" basis. Regardless of power source (battery, fuel cell, diesel generator or turbine) the HybridPower electric motor is designed to meet the customer's drive cycle requirements.

The HybridPower drive system family is targeted to meet the demands of light-duty through heavy-duty vehicle markets. Enova's family of light-duty drive systems includes:

- 30kilowatt (kW), 60kW, 90kW all-electric drives
- 90kW series-hybrid drive
- combinations of these systems based on customer requirements.

Our family of heavy-duty electric drive systems includes:

- 120kW all-electric drive
- 120/60kW peak series hybrid system
- 240/60kW peak series hybrid system
- 90kW peak mild, pre-transmission parallel hybrid system
- 100kW peak post-transmission parallel hybrid systems
- 100kW peak pre-transmission parallel hybrid system.

Enova's drive systems, in conjunction with, internal combustion engines, microturbines, fuel cells, flywheels, and generators sets provide state of the art hybrid-electric propulsion systems.

Hybrid vehicles are those that utilize an electric motor and batteries in conjunction with an internal combustion engine (ICE), whether piston or turbine. With a hybrid system, a small piston or turbine engine - fueled by gasoline or diesel, compressed natural gas (CNG), methane, etc., in a tank - supplements the electric motor and battery. These systems are self-charging, in that the operating ICE recharges the battery.

There are two types of hybrid systems: series and parallel. A series hybrid system is one where only the electric motor connects to the drive shaft; a parallel hybrid system is one where both the internal combustion engine and the electric motor are connected to the drive shaft. In a series hybrid system, the ICE turns the generator, which charges the battery, which -- through a control unit - powers the electric motor, which turns the wheels. In a parallel hybrid system, both the electric motor and the ICE can operate simultaneously to drive the wheels. In both hybrid systems and in pure electric systems, regenerative braking occurs, which assists in the charging of the batteries.

The parallel hybrid system is ideally suited for conditions where most of the driving is done at constant speed cruising, with a smaller amount of the driving involving random acceleration, such as "up hill" or with "stop and go" conditions. For acceleration, the controller causes the electric motor to kick in to assist the ICE, both running simultaneously. When speed is steady or the ground is flat, only the ICE runs. Additionally, when the batteries are low, the controller causes the ICE and motor to charge the batteries. As a result, the series hybrid system is best suited for starts and stops, and is ideal for applications such as urban transit buses and urban garbage trucks. The design of the series hybrid system is based on a driving cycle with a high percentage of random acceleration conditions.

System	Applications	Advantages

Series Hybrid	Driving with high percentage stop and go and/or hilly terrain	Optimally-sized IC engine Advanced engine/turbine may be used Simplified transmission Independent control
Parallel Hybrid	Driving with high percentage constant speed cruising	No generator and converter needed The drive system may be smaller

Hybrid Drive Configurations

Enova has identified three primary configurations based upon how well they meet market needs economic requirements. We have developed all of the relevant technology required to produce these drive systems and is currently introducing the Hybrid Power product line worldwide. All of our innovative hybrid drive systems are compatible with wide range of fuel sources and engine configurations.

Hybrid Drive Motors

The electric drive unit is essentially an electric motor with additional features and functionality. The motor is liquid-cooled, environmentally sealed, designed to handle automotive shock and vibration, and includes parking pawl, which stops the vehicle when the driver parks the car. It also permits regenerative braking to provide power recovery, in which the mechanical energy of momentum is converted into electrical energy as the motor slows during braking or deceleration. The optional gear reduction unit takes the electric motor's high rpm and gears it down to the lower rpm required by the vehicle's conventional drive shaft. As the revolutions per minute (rpm) go down, the torque of the electric motor increases.

The HybridPower drive systems exclusively utilize induction AC motors for their high performance, power density, and low cost. The AC drive system is scaleable and can be customized for different applications. Due to the large operating range that these propulsion systems offer, all parameters can be optimized; the user will not have to choose between acceleration, torque or vehicle speed.

Hybrid Motor Controllers

The controller houses all the components necessary to control the powering of a vehicle, in one easy-to-install package. Our main component is an inverter, which converts DC electricity to AC electricity. Enova also offers optional controllers for the air conditioning, power steering and heat pump, 12VDC/24VDC DC-to-DC converter for vehicle auxiliary loads such as cell phones, radio, lights, and a 6.6kW AC-to-DC on-board conductive charger which allows for direct 110 VAC or 220 VAC battery charging. These are located in the same housing as the controller, thus extra interconnects are not required. This approach simplifies the vehicle wiring harness and increases system reliability.

Using our proprietary WindowsTM based software package, vehicle interfaces and control parameters can be programmed in-vehicle. Real-time vehicle performance parameters can be monitored and collected.

Hybrid Drive Systems

The Enova hybrid drive family currently includes a 120/60kW peak series hybrid system, a 240/60kW peak series hybrid system, a 90kW peak mild, pre-transmission parallel hybrid system, a 100kW peak post-transmission parallel hybrid systems and our 100kW peak pre-transmission parallel hybrid system to be introduced later this year.

The Enova HybridPower hybrid-electric drive systems are based on the component building blocks of the electric drive family, including the motor, controller and optional components. As an example, the 120/60 kW series hybrid system uses the 120kW electric drive components to propel the vehicle, and uses a 60kW diesel generator (genset)to generate power while the vehicle is in operation. This synergy of design reduces the development cost of our hybrid systems by taking advantage of existing designs. The diesel genset has been designed to take advantage of many different models of internal combustion

engines for greater penetration into the burgeoning heavy-duty hybrid vehicle markets. Enova's genset will accept any engine with an industry standard bell housing and flywheel. Enova's control protocols are designed to easily interface with any standard engine controller with analog throttle inputs. Accessories for these drives include battery management systems, chargers and 12 or 24 volt power supplies.

Our hybrid systems are designed to work with a variety of hybrid power generation technologies. In our 120/60kW hybrid system, an internal combustion engine connected to a motor and motor controller performs the power generation. Other power options include liquid fueled turbines, such as the Capstone system, fuel cells, such as the Hydrogenics or Ballard system, or many others. In all of these examples, Enova's battery management system provides the power management to allow for proper power control.

Drive System Accessories

Enova's drive system accessories range from battery management systems to hybrid controllers, to rapid charging systems. These critical components are designed to complement the HybridPower drive system family by providing the elements necessary to create a complete technical solution for alternative energy drive systems.

Enova's drive system accessories are not only integral, but are also the perfect complement to our drive systems and are designed to provide our customers with a complete solution to their drive system needs.

Battery Care Unit

Enova's Battery Care Unit (BCU) monitors, manages, protects, and reports on the condition of the vehicles battery pack. It controls and manages battery performance, temperature, voltage and current to avoid harm to the batteries, to the entire system, and to the driver, operator and passengers. It also allows for monitoring for service to the battery and drive system. The BCU reports state-of-charge, amp hours and kilowatt-hours.

The BCU monitors the battery pack voltage and 28 additional individual voltages with a range of 0 to 18vDC. Optional expansion modules allow 28 additional inputs per module, with up to 16 modules permitted. The BCU has eight user-programmable outputs and four user-programmable inputs to allow full integration into the vehicle. These can be used to customize input and output parameters, and to provide for other custom monitoring and battery pack control. The device is approximately 7.1 inches by 4.3 inches by 1.6 inches.

The BCU directly interfaces with the HybridPower and other drive systems, and controls the Safety Disconnect Unit (SDU). It is capable of supporting any battery technology, and provides each type with optimized charging and protection algorithms. An internal real-time clock allows the BCU to wake up at user-specified times to initiate battery charging or pack monitoring. A precision shunt allows it to offer a wide dynamic range for monitoring charging and motoring current, without the errors commonly associated with other types of sensors.

The non-volatile RAM allows the BCU to update, store and report key battery pack parameters such as amp hours, kilowatt-hours and state of change. Using Enova's proprietary Windows -based diagnostic software, the BCU control parameters can be programmed "live" in-vehicle. Additionally, battery performance can be monitored in real-time. Reports can be output to a laptop computer for precise results and "customer friendly" usage.

Hybrid Control Unit

Enova's Hybrid Control Unit (HCU) continuously monitors the condition of the battery pack through communications with the BCU, monitors the driver commands through communications with the motor controller, and the state of the hybrid generator. Based upon the data received, the HCU provides continuous updates to the hybrid generator with instructions on mode of operation and power level. This innovative control loop ensures that the entire system is optimized to provide quick response to driver commands while providing the best possible system efficiency.

Safety Disconnect Unit

The Safety Disconnect Unit (SDU) is under the control of the BCU, and allows vehicle systems to easily connect and disconnect from the battery pack, when necessary, to prevent damage or harm. It also disconnects the battery pack during charging, protects it from surges, and constantly verifies that the battery pack is isolated from the vehicle chassis. In the event a ground isolation fault is detected, the BCU commands the SDU to break the battery connection thus ensuring a safe environment for the vehicle and operator. The SDU is available in two configurations to match the requirements of the drive systems.

High Voltage Disconnect Unit

The High Voltage Disconnect Unit (HVDU) is a reduced feature version of the Safety Disconnect Unit. The pre-charge board has been eliminated in order to provide a lower cost method of safely switching high voltage systems on the vehicle that do not require the soft start feature.

Wiring Harness Connector Kits

Enova provides complete mating connector kits to help the vehicle OEM with their production process. By using the Enova supplied kit the vehicle manufacturer is ensuring that they will have all of the necessary connectors to complete the vehicle build.

Distributed Power Generation for Industrial / Commercial / Residential Applications

Enova's distributed generation products are virtually identical in system configuration to that of a series hybrid vehicle, including a controller and battery management. For this market segment, we intend to provide DC-DC and DC-AC power conversion components to convert power supplied by batteries, fuel cells, generators and turbines to AC power that will be used by the end customer. Additionally, our BCU will provide power management functions to control the entire system. The main difference is that the 3-phase AC power typically supplied to the motor for propulsion power is, in this case, sent to the customer to supply power for their household or business.

20kW bi-directional Fuel Cell Power Conditioning System

Enova's 20kW bi-directional Fuel Cell Power Conditioning System, originally designed to meet the demands of an automotive Fuel Cell propulsion system, is now being applied to the stationary market for distributed generation applications.

This unique unit, not much larger than a conventional briefcase, provides a transparent interface between the Fuel Cell or Turbine, the battery pack, accessory loads, and the output load. Fast response time allows the output load to be serviced without interruption while the Fuel Cell or Turbine ramps up.

This unit is designed to interface directly with the Master Controller of the Stationary Generation System over a CAN bus. Other communications protocols supported are SAE J-1850, RS-232, and RS-485. Our proprietary package diagnostic software allows all key parameters of the Power Conditioner to be monitored and control boundaries to be adjusted.

Fuel Cell Management Unit

Enova has reconfigured its Battery Management Unit to perform the functions required to monitor, manage, and report on the status of a Fuel Cell Stack. The FCU monitors the fuel cell voltage and 28 additional individual voltages with a range of 0 to 18vDC. Optional expansion modules allow 28 additional inputs per module, with up to 16 modules permitted. The FCU has eight (8) user-programmable outputs and four (4) user-programmable inputs to allow full integration into the distributed generation system. These can be used to customize input and output parameters, and to provide for other custom monitoring and battery pack control.

Research and Development Strategy

Enova maintains a strategy of continual enhancement of its current product line and development of more efficient and reliable products for the ever-changing alternative energy sectors. Management believes R&D must be continued in order to remain competitive, minimize production cost and meet our customers' specifications. Because microprocessors and other components continue to advance in speed, miniaturization and reduction of cost, Enova must re-examine its designs to take advantage of such developments. Enova endeavors to fund its R&D through customer contracts where applicable, however it will provide internal funding where technology developed is critical to its future.

Enova's commitment to advancing technological superiority is evidenced by its internal efforts as well as its joint venture with HHI for future technologies.

Manufacturing Strategy

Our products are "production-engineered," meaning they are designed so they can be commercially produced without additional development. All formats and files are designed with manufacturability in mind from the start. For the automotive market, Enova designs its products to ISO 900X manufacturing and quality standards. We believe that our redundancy of systems, robustness of design, and rigorous quality standards result in higher performance and reduced risk. For every component and piece of hardware, there are detailed performance specifications. Each piece is tested and evaluated against these specifications, which enhances the value of the systems to OEM customers.

We have developed a multi-tiered manufacturing strategy that allows the company to meet the market's demand for high quality production goods while optimizing cost of goods sold across the spectrum of low to high volumes. At the core of this strategy is a strong reliance on pre-selected highly qualified outside manufacturing houses that specialize in various aspects of the manufacturing process. It is through this closely managed outsourcing strategy that Enova is able to achieve improved gross margins while minimizing fixed costs within the organization.

All tiers of manufacturing of electronic components begin with a complete engineering design package that includes a drawing tree, bill of material, electrical and mechanical drawings, and control software where appropriate. The control software and the design package are internally reviewed, validated, and released through our configuration management process.

For low volume manufacturing, where volumes are less than 10 to 20 units, the process is similar to that for prototyping. Low volume manufacturing and testing is performed in-house.

For higher volume manufacturing, Enova has established strategic alliances with ISO-900X certified manufacturers that can take on all aspects of the process from component sourcing, to circuit card assembly, to component assembly, to final unit assembly and test. These completed components and units are shipped to our facility where complete drive systems that meet the customer's unique requirements are packaged and shipped.

As our market continues to grow and individual customers begin to order higher quantities of fixed drive system configurations, we will transition to a system where the final assembly is drop shipped directly to the end customer. This critical concept has already been discussed with our strategic manufacturing partners.

Competitive Conditions

Competition within the mobile and stationary hybrid power sector is still somewhat fragmented, although there are indications of some consolidation at this time. The market is still divided into very large players such as Allison, Siemens, BAE and Eaton; or smaller competitors such as ISE Research, Azure Dynamics/Solectria; PEI, Unique Mobility and others. The larger companies tend to still focus on single solutions but maintain the capital and wherewithal to aggressively market such. The smaller competitors offer a more diversified product line, but do not have the market presence to generate significant penetration at this juncture.

Our research and experience has indicated that our target market segments certainly focus on price, but would buy based on reliability, performance and quality support when presented the life-cycle business model for hybrid technologies for their application. Enova has good indications that many

would pay a 10-20% premium for hybrids from a secure vendor providing warrantied performance, quality service and support.

The competition to develop and market electric, hybrid and fuel cell powered vehicles has increased during the last year and we expect this trend to continue. The competition consists of development stage companies as well as major U.S. and international companies. Our future prospects are highly dependent upon the successful development and introduction of new products that are responsive to market needs and can be manufactured and sold at a profit. There can be no assurance that we will be able to successfully develop or market any such products.

The development of hybrid-electric and alternative fuel vehicles, such as compressed natural gas, fuel cells and hybrid cars poses a competitive threat to our markets for low emission vehicles or LEVs but not in markets where government mandates call for zero emission vehicles or ZEVs. Enova is involved in the development of hybrid vehicles and fuel cell systems in order to meet future requirements and applications.

Various providers of electric vehicles have proposed products or offer products for sale in this emerging market. These products encompass a wide variety of technologies aimed at both consumer and commercial markets. The critical role of technology in this market is demonstrated through several product offerings. As the industry matures, key technologies and capabilities are expected to play critical competitive roles. Our goal is to position ourselves as a long term competitor in this industry by focusing on electric, hybrid and fuel cell powered drive systems and related sub systems, component integration, technology application and strategic alliances. The addition of new strategies to penetrate stationary power markets with current technologies will assist in creating a more diversified product mix. We believe that this strategy will enhance our position as a power management and conversion components supplier to both the mobile and stationary power markets.

Research and Development

Enova believes that timely development and introduction of new technology and products are essential to maintaining a competitive advantage. We are currently focusing our development efforts primarily in the following areas:

* Power Control and Drive Systems and related technologies for vehicle applications;
* Stationary Power Management and Conversion and related technologies;
* Heavy Duty Drive System development for Buses; Trucks, Industrial, Military and Marine applications
* Fuel Cell Generation system power management and process control
* Systems Integration of these technologies;
* Technical and product development under DOE/DOT/DOD and Hyundai Group Contracts
* OEM Technical and Product development.

For the years ended December 31, 2004, 2003 and 2002, we spent $935,000, $799,000, and $1,152,000, respectively, on internal research and development activities. Enova is continually evaluating and updating the technology and equipment used in developing each of its products. The power management and conversion industry utilizes rapidly changing technology and we will endeavor to modernize our current products as well as continue to develop new leading edge technologies to maintain our competitive edge in the market.

Intellectual Property

Enova currently holds four U.S. patents and has one patent pending, in power management and control, with an additional patent in crash management safety, which was originally issued in 1997. We also have trademarks or service marks in the United States and have been filing for international patents as well. We continually review and append our protection of proprietary technology. We continue to place emphasis on the development and acquisition of patentable technology, however, a majority of our intellectual property is contained within our software which is best protected under trade secret provision of U.S. patent law. Under such provisions, Enova does not have to publish its proprietary code in order to maintain protection.

We maintain an internal review and compensation process to encourage our employees to create new patentable technologies. The status of patents involves complex legal and factual questions, and the breadth of claims allowed is uncertain. Accordingly, there can be no assurance that patent applications filed by us will result in patents being issued. Moreover, there can be no assurance that third parties will not assert claims against us with respect to existing and future products. Although we intend to vigorously protect our rights, there can be no assurance that these measures will be successful. In the event of litigation to determine the validity of any third party claims, such litigation could result in significant expense to Enova. Additionally, the laws of certain countries in which our products are or may be developed, manufactured or sold may not protect our products and intellectual property rights to the same extent as the laws of the United States.

Enova's success depends in part on its ability to protect its proprietary technologies. Enova's pending or future patent applications may not be approved and the claims covered by such applications may be reduced. If allowed, patents may not be of sufficient scope or strength, others may independently develop similar technologies or products, duplicate any of Enova's products or design around its patents, and the patents may not provide Enova with competitive advantages. Further, patents held by third parties may prevent the commercialization of products incorporating Enova's technologies or third parties may challenge or seek to narrow, invalidate or circumvent any of Enova's pending or future patents. Enova also believes that foreign patents, if obtained, and the protection afforded by such foreign patents and foreign intellectual property laws, may be more limited than that provided under United States patents and intellectual property laws. Litigation, which could result in substantial costs and diversion of effort by Enova, may also be necessary to enforce any patents issued or licensed to Enova or to determine the scope and validity of third-party proprietary rights. Any such litigation, regardless of outcome, could be expensive and time-consuming, and adverse determinations in any such litigation could seriously harm Enova's business.

Enova relies on unpatented trade secrets and know-how and proprietary technological innovation and expertise which are protected in part by confidentiality and invention assignment agreements with its employees, advisors and consultants and non-disclosure agreements with certain of its suppliers and distributors. These agreements may be breached, Enova may not have adequate remedies for any breach or Enova's unpatented proprietary intellectual property may otherwise become known or independently discovered by competitors. Further, the laws of certain foreign countries may not protect Enova's products or intellectual property rights to the same extent as do the laws of the United States.

Employees

As of December 31, 2004, we had 28 full time employees. Additionally, we employ three individuals as independent contractors, engaged on an hourly basis, one of whom is domiciled in South Korea. The departmental breakdown of these individuals includes 4 in administration, 1 in sales, 11 in engineering and research and development, and 12 in production.

Item 2. Properties

Enova's corporate offices are located in Torrance, California, in leased office space of approximately 20,000 square feet. This facility houses our various departments, including engineering, operations, executive, finance, planning, purchasing, investor relations and human resources. This lease terminates in February 2008. The monthly lease expense is $13,500. Enova also has a leased office in Hawaii which is rented on a month-to-month basis at $1,500 per month and an office in South Korea which is also rented on a month-to-month basis at $500 per month. We believe that these offices are suitable and adequate for our current and readily foreseeable needs.

Item 3. Legal Proceedings

We may from time to time become a party to various legal proceedings arising in the ordinary course of business. At December 31, 2004, the Company had no known current, pending or threatened litigation.

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

No matters were submitted to a vote of security holders during the fourth quarter of fiscal 2004.

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PART II

Item 5. Market for Registrant's Common Equity, Related Shareholder Matters and Issuer Purchases of Equity Securities

Our Common Stock is presently traded in the over-the-counter market and quoted on the National Association of Securities Dealers (NASD) "Bulletin Board" under the symbol "ENVA." The following table sets forth the high and low bid prices of the Common Stock as reported on the NASD Bulletin Board by the National Quote Bureau for the fiscal quarters indicated. The following over-the-counter market quotations reflect inter-dealer prices, without retail mark-up, markdown or commission, and may not necessarily represent actual transactions.

	Common Stock		Average Daily
	High Price	Low Price	Volume
Calendar 2003			

First Quarter	$ 0.09	$ 0.06	172,237
Second Quarter	$ 0.09	$ 0.06	119,057
Third Quarter	$ 0.10	$ 0.05	465,683
Fourth Quarter	$ 0.14	$ 0.07	463,240
Calendar 2004			
First Quarter	$ 0.21	$ 0.09	1,000,685
Second Quarter	$ 0.19	$ 0.09	479,857
Third Quarter	$ 0.15	$ 0.12	293,817
Fourth Quarter	$ 0.15	$ 0.09	308,098

On March 30, 2005, the last reported high bid price of the Common Stock was $0.10 and the last reported low asking price was $0.095. As of March 30, 2005, there were approximately 9,750 holders of record of our Common Stock. As of March 30, 2005, approximately 106 shareholders, many of who are also Common Stock shareholders, held our Series A Preferred Stock. Approximately 34 shareholders as of March 30, 2005 held our Series B Preferred Stock. The number of holders of record excludes beneficial holders whose shares are held in the name of nominees or trustees.

Stock Issuances

In the first quarter of 2004, Enova entered into several stock purchase agreements to issue 16,250,000 shares of our common stock through a private placement offering at $0.12 per share for a total cash purchase of $1,950,000. The funds were received and the shares were issued in April 2004. These investors represented that they were accredited investors. We relied on Rule 506 of Regulation D and Section 4(2) of the Securities Act of 1933, as amended, for the exemption from registration of the sale of such shares. Enova continues to seek additional investment capital to fund its operations, development and expansion plans. Additionally, we received approximately $783,000 in equity capital during the year as a result of our employees exercising incentive stock options, a majority of which expired in July 2004.

In September 2004, the Company issued 11,335,315 restricted shares of common stock to Hyundai Heavy Industries Co., Ltd. in exchange for $1,500,000 in cash. $1,000,000 of the proceeds from this issuance was used to fund Enova's joint venture interest in the Hyundai-Enova Innovative Technology Center as previously noted, with the $500,000 balance of proceeds to be used for general operations and working capital. The Company relied upon Regulation D, Rule 506 promulgated by the Securities and Exchange Commission and Section 4(2) of the Securities Act of 1933, as amended, as the exemption from registration for the issuance of these shares.

During 2004, we issued, or accrued for issuance, an aggregate of 701,255 shares of common stock to the non-executive board directors in accordance with the September 1999 Board of Directors compensation package for outside directors, as amended to date. For each meeting attended in person, each outside director is entitled to receive $2,000 in cash and $4,000 of stock valued on the date of the meeting at the average of the closing ask and bid prices; for each telephonic Board meeting, each outside director is entitled to receive $500 in cash and $500 of stock valued on the date of the meeting at the average of the closing ask and bid prices; and for each meeting of a Board committee attended in person, a committee member is entitled to receive $1,000 in cash and $1,000 of stock valued on the date of the meeting at the average of the closing ask and bid prices. All Directors are also reimbursed for out-of-pocket expenses incurred in connection with attending Board and committee meetings.

We relied on Rule 506 of Regulation D and Section 4(2) of the Securities Act of 1933, as amended, for the exemption from registration of the

sale of such shares. As of December 31, 2004, an aggregate of 3,539,784 shares had been issued, or accrued for issuance, under the above compensation plan for Directors.

Dividend Policy

To date, we have neither declared nor paid any cash dividends on shares of our Common Stock or Series A or B Preferred Stock. We presently intend to retain all future earnings for our business and do not anticipate paying cash dividends on our Common Stock or Series A or B Preferred Stock in the foreseeable future. We are required to pay dividends on our Series A and B Preferred Stock before dividends may be paid on any shares of Common Stock. At December 31, 2004, Enova had an accumulated deficit of approximately $100,459,000 and, until this deficit is eliminated, will be prohibited from paying dividends on any class of stock except out of net profits, unless it meets certain asset and other tests under Section 500 et. seq. of the California Corporations Code.

Item 6. Selected Financial Data

The following selected financial data tables set forth selected financial data for the years ended December 31, 2004, 2003, 2002, 2001 and 2000. The statement of income data and balance sheet data for and as of the end of the years ended December 31, 2004, 2003, 2002, 2001 and 2000 are derived from the audited financial statements of Enova. The following selected financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the Financial Statements, including the notes thereto, appearing elsewhere in this 10K.

	As of and for the year ended December 31 (in thousands, except per share data),		
	2004	2003	2002
NET SALES	$ 2,554	$ 4,310	$ 4,4
COST OF SALES	2,239	3,304	3,7
GROSS MARGIN	315	1,006	6
OTHER COSTS AND EXPENSES			
Research and development	925	799	1,1
Selling, general and administrative	2,325	2,919	2,8
Interest and financing fees	255	234	1
Other expenses (income)	--	200	--
Equity in losses of equity method investee	192	40	--
Legal settlements	--	--	
Total other costs and expenses	3,697	4,192	4,2
LOSS FROM CONTINUING OPERATIONS	(3,382)	(3,186)	(3,5
GAIN ON DEBT RESTRUCTURING	--	--	--
NET LOSS	$ (3,382)	$ (3,186)	$ (3,5

PER COMMON SHARE:			
Loss from continuing operations	$ (0.01)	$ (0.01)	$ (0.
Gain on debt restructuring	--	--	--
Net loss per common share	$ (0.01)	$ (0.01)	$ (0.
WEIGHTED AVERAGE NUMBER COMMON SHARES OUTSTANDING	397,685	334,840	326,3
Total Assets	$ 5,887	$ 4,870	$ 6,2
Long-term debt	$ 3,335	$ 3,347	$ 3,3
Shareholder's equity (deficit)	$ 103	$ (864)	$ 2

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

You should read this Management's Discussion and Analysis of Financial Condition and Results of Operations in conjunction with our 2004 Financial Statements and Notes thereto. The matters addressed in this Management's Discussion and Analysis of Financial Condition and Results of Operations, with the exception of the historical information presented contains certain forward-looking statements involving risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including those set forth under the heading "Certain Factors That May Affect Future Results" and elsewhere in this report.

Cautionary Note on Forward-looking Statements

Some of the matters discussed under the caption "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Business" and elsewhere in this Form 10-K include forward-looking statements. We have based these forward-looking statements on our current expectations and projections about future events.

In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "could," "predicts," "potential," "continue," "expects," "anticipates," "future," "intends," "plans," "believes," "estimates" and similar expressions. These statements are based on our current beliefs, expectations and assumptions and are subject to a number of risks and uncertainties. Actual results, levels of activity, performance, achievements and events may vary significantly from those implied by the forward-looking statements. These forward-looking statements are made as of the date of this Form 10-K, and, except as required under applicable securities law, we assume no obligation to update them or to explain the reasons why actual results may differ.

OVERVIEW

Enova Systems believes it is a leading supplier of efficient, environmentally-friendly digital power components and systems products in conjunction with our associated engineering services. Our core competencies are focused on the development and commercialization of power management and conversion systems for mobile and stationary applications. Enova applies unique `enabling technologies' in the areas of alternative energy propulsion systems

for light and heavy-duty vehicles as well as power conditioning and management systems for distributed generation systems. Our products can be found in a variety of OEM vehicles including those from Hyundai Motor Company and Ford Motor Company, trucks and buses for First Auto Works of China, Mack Truck, WrightBus of the U.K. and the U.S. Military, as well as digital power systems for EDO, Hydrogenics and UTC Fuel Cells, a division United Technologies.

Enova's product focus is digital power management and power conversion systems. Its software, firmware, and hardware manage and control the power that drives either a vehicle or stationary device(s). They convert the power into the appropriate forms required by the vehicle or device and manage the flow of this energy to optimize efficiency and provide protection for both the system and its users. Our products and systems are the enabling technologies for power systems.

The latest state-of-the-art technologies such as hybrid vehicles, fuel cell and micro turbine based systems, and stationary power generation, all require some type of power management and conversion mechanism. Enova Systems supplies these essential components. Enova drive systems are 'fuel-neutral,' meaning that they have the ability to utilize any type of fuel including diesel, liquid natural gas (LNG) or bio-diesel fuels. We also develop, design and produce power management and power conversion components for stationary power generation - both on-site distributed power and on-site telecommunications back-up power applications. These stationary applications also employ fuel cells, microturbines and advanced batteries for power storage and generation. Additionally, Enova performs significant research and development to augment and support others' and our internal related product development efforts.

Our products are "production-engineered." This means they are designed so they can be commercially produced (i.e., all formats and files are designed with manufacturability in mind, from the start). For the automotive market, Enova designs its products to ISO 9000X manufacturing and quality standards. Enova's redundancy of systems and rigorous quality standards result in high performance and reduced risk. For every component and piece of hardware, there are detailed performance specifications. Each piece is tested and evaluated against these specifications, which enhances and confirms the value of the systems to OEM customers. Our engineering services focus on system integration support for product sales and custom product design.

The financial statements present the financial position of Enova Systems, Inc. as of December 31, 2004 and 2003 and the results of operations and cash flows for the year ended December 31, 2004, 2003 and 2002.

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Critical Accounting Policies

Financial Reporting Release No. 60 requires all companies to include a discussion of critical accounting policies or methods used in the preparation of financial statements. Note 1 of the notes to the financial statements includes a summary of the significant accounting policies and methods used in the preparation of our financial statements. The following is a brief discussion of the more significant accounting policies and methods that we use.

Our discussion and analysis of our financial condition and result of operations are based on our financial statements, which have been prepared in conformity with accounting principles generally accepted in the United States of America. Our preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the dates of the financial statements and the reported amounts of revenues and expenses during the reporting periods. We based our estimates on historical experience and on various other assumptions that we believe to be reasonable under the

circumstances. The most significant estimates and assumptions relate to revenue recognition and potential allowances for doubtful accounts. Actual amounts may differ from such estimates under different assumptions or conditions. The following summarizes our critical accounting policies and significant estimates used in preparing our consolidated financial statements:

- Inventories are priced at the lower of cost or market using standard costs, which approximate actual costs on a first-in, first-out (FIFO) basis. We maintain a perpetual inventory system and continuously record the quantity on-hand and standard cost for each product, including purchased components, subassemblies and finished goods. We maintain the integrity of perpetual inventory records through periodic physical counts of quantities on hand. Finished goods are reported as inventories until the point of transfer to the customer. Generally, title transfer is documented in the terms of sale.

  Standard costs are generally re-assessed at least annually and reflect achievable acquisition costs, generally the most recent vendor contract prices for purchased parts, currently obtainable assembly and test labor, and overhead for internally manufactured products. Manufacturing labor and overhead costs are attributed to individual product standard costs at a level planned to absorb spending at average utilization volumes.

  We maintain an allowance against inventory for the potential future obsolescence or excess inventory that is based on our estimate of future sales. A substantial decrease in expected demand for our products, or decreases in our selling prices could lead to excess or overvalued inventories and could require us to substantially increase its allowance for excess inventory. If future customer demand or market conditions are less favorable than our projections, additional inventory write-downs may be required, and would be reflected in cost of sales in the period the revision is made.

- Stock based compensation - we periodically issue common stock or stock options to employees and non-employees for services rendered. For common stock issuances, the cost of these services is recorded based upon the fair value of our common stock on the date of issuance. SFAS No. 123, "Accounting for Stock-Based Compensation," establishes and encourages the use of the fair value based method of accounting for stock-based compensation arrangements under which compensation cost is determined using the fair value of stock-based compensation determined as of the date of grant and is recognized over the periods in which the related services are rendered. The statement also permits companies to elect to continue using the current implicit value accounting method specified in Accounting Principles Board ("APB") Opinion No. 25, "Accounting for Stock Issued to Employees," to account for stock-based compensation. We have elected to use the intrinsic value based method and has disclosed the pro forma effect of using the fair value based method to account for its stock-based compensation. For issuances of stock options to employees and directors we measure compensation costs using the intrinsic value method, or APB Opinion No. 25. Stock options granted to non-employees are accounted for under the fair value method. The fair value of stock options granted is calculated using the Black Scholes option pricing model based on the weighted average assumptions as detailed in the notes to our financial statements.

- Allowance for Doubtful Accounts - we maintain allowances for doubtful accounts for estimated losses resulting from the inability of its customers to make required payments. A considerable amount of judgment is required in assessing the ultimate realization of accounts receivable including the current credit-worthiness of each customer. If

the financial condition of the Company's customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances may be required.

- Contract Services Revenue and Cost Recognition - The Company is required to make judgments based on historical experience and future expectations, as to the reliability of shipments made to its customers. These judgments are required to assess the propriety of the recognition of revenue based on Staff Accounting Bulletin ("SAB") No. 101 and 104, "Revenue Recognition," and related guidance. The Company makes these assessments based on the following factors: i) customer-specific information, ii) return policies, and iii) historical experience for issues not yet identified. Under FAS Concepts No. 5, revenues are not recognized until earned.

The Company manufactures proprietary products and other products based on design specifications provided by its customers. Revenue from sales of products are generally recognized at the time title to the goods and the benefits and risks of ownership passes to the customer which is typically when products are shipped based on the terms of the customer purchase agreement. Revenue relating to long-term fixed price contracts is recognized using the percentage of completion method. Under the percentage of completion method, contract revenues and related costs are recognized based on the percentage that costs incurred to date bear to total estimated costs. Changes in job performance, estimated profitability and final contract settlements may result in revisions to cost and revenue, and are recognized in the period in which the revisions are determined. Contract costs include all direct materials, subcontract and labor costs and other indirect costs. General and administrative costs are charged to expense as incurred. At the time a loss on a contract becomes known, the entire amount of the estimated loss is accrued. The aggregate of costs incurred and estimated earnings recognized on uncompleted contracts in excess of related billings is shown as a current asset, and billings on uncompleted contracts in excess of costs incurred and estimated earnings is shown as a current liability.

These accounting policies are applied consistently for all years presented. Our operating results would be affected if other alternatives were used. Information about the impact on our operating results is included in the footnotes to our financial statements.

LIQUIDITY AND CAPITAL RESOURCES

The accompanying financial statements have been prepared on a going concern basis which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. Over the next few years, we expect to incur losses from operations as we continue to develop future products and market our current products. We will need to raise additional capital through debt or equity financings or collaborative arrangements with industry partners to continue its business operations.

Our ability to continue as a going concern is dependent on its success at obtaining additional capital sufficient to meet its obligations on a timely basis, and to ultimately attain profitability. Management is actively engaged in seeking to raise capital through product licensing, co-development programs, or public or private equity financing. We believe we have demonstrated the ability to raise the necessary funds for our growth and development activities. However, there is no assurance that we will raise capital sufficient to enable us to

continue its operations through the end of the fiscal year.

In the event we are unable to successfully obtain additional capital, it is unlikely that we will have sufficient cash flows and liquidity to finance our business operations as currently contemplated. Accordingly, in the event additional capital is not obtained, we will likely further downsize the organization, defer marketing programs, reduce general and administrative expenses and delay or reduce the scope of research and development projects until we are able to obtain sufficient financing to do so.

These factors could significantly limit our ability to continue as a going concern. The balance sheets do not include any adjustments relating to recoverability and classification of recorded asset amounts or the amounts of classification of liabilities that might be necessary should the Company be unable to continue in existence.

We have experienced cash flow shortages due to operating losses primarily attributable to research, development, marketing and other costs associated with our strategic plan as an international developer and supplier of electric propulsion and power management systems and components. Cash flows from operations have not been sufficient to meet our obligations. Therefore, we have had to raise funds through several financing transactions. At least until we reach breakeven volume in sales and develop and/or acquire the capability to manufacture and sell our products profitably, we will need to continue to rely on cash from external financing sources.

We are seeking new investment capital to fund research and development and create new market opportunities. In order to fuel our growth in the stationary power market, we will need additional capital to further these development programs and augment our intellectual properties. However, our current sources of funds are not sufficient to provide the working capital for material growth, and we will need to obtain additional debt or equity financing to support such growth. As of March 30, 2005, we continue to seek private accredited investors to purchase Enova common stock. We have been in discussions with several private institutions and investment banks to acquire such financings. As of March 30, 2005, there were no other firm commitments for such funds. Currently, we are seeking up to $10 million in new investment funding.

Our operations during the year ended December 31, 2004 were financed by development contracts and product sales, as well as from working capital reserves.

During the year ended December 31, 2004, our operations required $2,156,000 more in cash than was generated. Enova continues to increase marketing and development spending as well as administrative expenses necessary for expansion to meet customer demand. Accounts receivable decreased by $281,000 from $803,000, or approximately 35% from the balance at December 31, 2003 (net of write-offs). The decrease is due to a continued delay in acquiring new business in the third and fourth quarters of 2004. We are beginning to observe an increase in sales activity for our drive systems, components and development services which commenced in the fourth quarter of 2004, which we anticipate will

increase receivables in future quarters. Inventory decreased slightly by $570,000 from $1,606,000 or 36% from December 31, 2003 balances. The decrease was due to utilization of inventory stock for sales as well as write-offs for obsolete and slow-moving inventory. We charged off approximately $113,000 of this reduction of our inventory relating to raw materials for the Ballard/Ford Th!nk city program which was terminated in 2003. This was inventory specific to

that program which we believed may be useable in other components, or would be purchased by third parties, but was not due to our increased focus on the heavy-duty hybrid markets. We also charged off an additional $162,000 in obsolete or slow moving inventory during 2004.

Prepaid expenses increased by net $226,000 during 2004 from the December 31, 2003 balance of $78,000 or almost 300% due to two customer deposits from Tomoe Engineering totaling $220,000 as an element of the Singapore Land Transit Authority program. These deposits are against component sales which are anticipated to be completed in late 2005 and early 2006.

Fixed assets increased by $175,000 or 11%, before depreciation, for the year ended December 31, 2004 from the prior year balance of $1,579,000 primarily due to the purchase of our heavy-duty diesel series-hybrid demonstration truck and a company vehicle which accounted for $160,000 of the total. Additional purchases of computer equipment and software accounted for the balance.

Investments increased by $808,000 during 2004, net of our pro-rata share of losses attributable to the investment, which reflects our forty percent (40%) interest in the Hyundai-Enova Innovative Technology Center as noted elsewhere in this Form 10-K. For the year ended December 31, 2004, the ITC generated a net loss of approximately $481,000, resulting in a charge to Enova of $192,000 utilizing the equity method of accounting for our interest in the ITC. Based on contractual obligations of our Joint Venture Agreement with Hyundai Heavy Industries Co., we made an additional investment of $1,000,000 in 2004 which was funded by HHI through a stock purchase in September 2004 as noted in Part II, Item 5 of this Form 10-K.

Other assets decreased by $108,000 during 2004 from $404,000 in 2003 as we continued to amortize the asset relating to the Ford Value Participation Agreement. Intellectual property assets, including patents and trademarks remained unchanged at $92,000 at December 31, 2004.

Accounts payable decreased in 2004 by over 88% from $768,000 at December 31, 2003 to $66,000 at December 31, 2004. We paid down the remaining HHI payables as well as other payables during the year from both cash flows from operations, invested capital and our bank line of credit. Our line of credit balance increased to $229,000 at December 31, 2004 from $120,000 at December 31, 2003 as we utilized such to reduce other liabilities with higher interest rates. Deferred revenue increased to $392,000 during 2004 in conjunction with the Tomoe Singapore project. These revenues will be recognized throughout 2005 and early 2006 as we progress on the development and production phases of that contract. Accrued salaries and wages increased by a net of $74,000 including monies payable to Carl Perry, our former CEO, in conjunction with his agreement with us.

Accrued interest increased by $256,000 for the year ended December 31, 2004, an increase of 23%. The increase was due to interest on the Note due the Credit Managers Association of California for $3.2 million per the terms of the Note as well as the Schulz note payable. Other accrued expenses and payables decreased by $85,000 during 2004 from $98,000 at December 31, 2003 as we paid off the liabilities comprising these amounts during the year.

The future unavailability or inadequacy of financing to meet future needs could force us to delay, modify, suspend or cease some or all aspects of our planned operations.

RESULTS OF OPERATIONS

Years Ended December 31, 2004 and 2003

Net sales of $2,554,000 for the twelve months ended December 31, 2004

decreased $1,756,000 or 41% from $4,310,000 during the same period in 2003. The decrease in sales was attributable primarily to those factors listed elsewhere in this Form 10-K. During 2004, we experienced a slowdown in sales due to a number of internal and external developments including personnel changes, and customer delays in ordering caused by continued evaluation of our systems or awaiting orders for their products.

Our sources of revenue for 2004 came relatively equally from product sales and development contracts. Product sales as a percentage of total revenues of 57% in 2004 were consistent with the 2003 product sales to total revenues percentage of 56%. Sales of our HybridPower 120kW drive systems accounted for a majority of our product sales in 2004. We believe this trend will continue over the next several years. However we continue to seek out and contract for new development programs with both our current partners such as Ford, Mack/Volvo, FAW, Tomoe, Hyundai and our other U.S., Asian and European alliance partners, as well as with new alliances with other vehicle manufacturers and energy companies.

Cost of sales consists of component and material costs, direct labor costs, integration costs and overhead related to manufacturing our products. Product development costs incurred in the performance of engineering development

contracts for the U.S. Government and private companies are charged to cost of sales for this contract revenue. During 2004, our trend of establishing new customers and strengthening current alliances with customers, such as Tomoe and MTrans in the heavy-duty drive system market continued. Our new customers continue to require additional integration and support services to customize, integrate and evaluate our products. We believe these costs to be initial, one-time costs for these customers and anticipate similar costs to be incurred with respect to new customers as we gain additional market share. Customers who have been using our products over one year do not incur these same types of initial costs. Cost of sales for the year ended December 31, 2004 decreased $1,065,000, or 32%, from $3,304,000 for the year ended December 31, 2003. This decrease is primarily attributable to the decrease in sales for the year, although we are experiencing a reduction in integration support costs. We anticipate there may be an increase in cost of sales for products in 2005 due to foreign exchange rate fluctuations of the U.S. dollar versus those currencies of our primary manufacturers. We anticipate this to be offset by a reduction in costs associated with manufacturing these products due to increasing purchases, improving our gross margins. Cost of sales, as a percentage of gross sales were higher than in prior years due to the aforementioned write downs of inventory for the Ford Th!nk program and due to obsolescence. Additionally, during 2004, we modified the method to account for cost of sales to a more accurate approach which includes more detailed analysis of costs associated with the various projects and components we sell.

Research and development expenses consist primarily of personnel, facilities, equipment and supplies for our research and development activities. Non-funded development costs are reported as research and development expense. Research and development expense increased in 2004 to $925,000 from $799,000 for the same period in 2003, an increase of $126,000, or 16%. During 2004, externally funded research and development from partners such as FAW, Mack/Volvo, Hyundai, and the U.S. Government offset certain costs of development for new products in the areas of mobile and stationary power management and conversion, thereby reducing the need for internal funding. Programs included our new parallel hybrid drive systems, our diesel generation engine/motor system for our heavy-duty drive systems, and upgrades and improvements to our current power conversion and management components. Additionally, we continued to

enhance our technologies to be more universally adaptable to the requirements of our current and prospective customers. By modifying our software and firmware, we believe we should be able to provide a more comprehensive, adaptive and effective solution to a larger base of customers and applications. We will continue to research and develop new technologies and products, both internally and in conjunction with our alliance partners and other manufacturers as we deem beneficial to our global growth strategy.

Selling, general and administrative expenses consist primarily of personnel and related costs of sales and marketing employees, consulting fees and expenses for travel, trade shows and promotional activities and personnel and related costs for general corporate functions, including finance, accounting, strategic and business development, human resources and legal. Selling, general and administrative expenses decreased in 2004 from 2003 levels due to lower consulting, legal, and accounting costs and expenses as well as continued efforts to maintain a reduction in overall non-revenue generating expenditures. For the year ended December 31, 2004, these expenses totaled $2,325,000 from $2,919,000 for the similar period in 2003. This represents a $594,000 decrease, or 20%, in these expenses. We are continually reviewing operations to lower overhead costs and increase operational efficiencies

For the year ended December 31, 2004, interest and financing fees increased by $21,000 to $255,000, an increase of 8%. The increase was due solely to an increase in 2004 in the interest rate on the Note due the Credit Managers Association of California for $3.2 million per the terms of the Note.

In 2004, we charged off approximately $275,000 in obsolete and slow moving inventory from our books. Approximately 40% of this consisted of raw materials associated with the Ford Th!nk city program which was terminated in 2002. We do not anticipate further material write downs of our inventory.

Our $3,382,000 net loss for the year ended December 31, 2004 is $196,000 more than the loss incurred in 2003 of $3,186,000, an increase of 6%. The increase is due primarily to write-offs of obsolete and slow-moving inventory during the year increased internal development for new products and costs associated with the annual meeting and other regulatory compliance. Management will continue to seek operational efficiencies and methods to reduce manufacturing and overhead costs as well as increase revenues to enhance our goal of profitability.

During the fourth quarter of fiscal 2004, we:

- wrote-down inventory by a net of $275,000 for obsolete and slow-moving inventory. We charged off approximately $113,000 of this reduction of our inventory relating to raw materials for the Ballard/Ford Th!nk city program which was terminated in 2002. This was inventory specific to that program which we believed may be useable in other components, or would be purchased by third parties, but was not due to our increased focus on the heavy-duty hybrid markets. We also charged off an additional $162,000 in obsolete or slow moving inventory during 2004. This resulted in an increase of cost of sales by $275,000 for the year.

- allocated certain expenses to cost of sales, which had been charged to general and administrative expense, based on our improved method of apportioning such costs. This resulted in an increase in cost of sales of approximately $147,000 in the fourth quarter, a portion of which may have been attributable to prior quarters in 2004 but none that we believe would have a material impact on the presentation of those quarters.

The above two adjustments (i) increased cost of sales by $422,000 in the fourth quarter, (ii) reduced gross profit by $422,000, (iii) increased loss from operations by $275,000 and (iv) reduced net loss by $275,000.

Years Ended December 31, 2003 and 2002

Net sales of $4,310,000 for the twelve months ended December 31, 2003 decreased $145,000 or 3% from $4,455,000 during the same period in 2002. Our sources of revenue for 2003 came primarily from product sales. Product sales as a percentage of total revenues of 56% in 2003 were consistent to the 2002 product sales to total revenues percentage of 59%. Sales of our HybridPower 120kW drive systems accounted for a majority of our product sales in 2003.

Cost of sales consists of component and material costs, direct labor costs, integration costs and overhead related to manufacturing our products. Product development costs incurred in the performance of engineering development contracts for the U.S. Government and private companies are charged to cost of sales for this contract revenue. Cost of sales for the year ended December 31, 2003 decreased $480,000, or 12%, from $3,784,000 for the year ended December 31, 2002. This decrease was attributable to follow-on orders from existing customers such as EPT and MTrans, which no longer require as much integration support, and from decreased pricing from our contract manufacturers as our order quantities rise.

Research and development expense decreased in 2003 to $799,000 from $1,152,000 for the same period in 2002, a decrease of $353,000, or 31%. During 2003, we reduced non-essential expenses for internal research and development without sacrificing that development necessary to maintain our competitive edge in our markets. We supplemented this reduction by teaming with other companies in our sector such as Mack/Volvo, Hyundai, and the U.S. Government to offset the costs of development for new products in the areas of mobile and stationary power management and conversion. Programs included our advanced power management systems for fuel cells, our diesel generation engine/motor system for our heavy-duty drive systems, a dual 8kW inverter, and upgrades and improvements to our current power conversion and management components. Additionally, we continued to enhance our technologies to be more universally adaptable to the requirements of our current and prospective customers.

Selling, general and administrative expenses were further reduced in 2003 from 2002 levels continuing a trend from prior years. Net of the $595,000 AVS bad debt write-off, our selling, general and administrative expenses decreased $513,000 in the year ended December 31, 2003, to $2,324,000 from $2,837,000 for the similar period in 2002. This represents an 18% reduction in these expenses as a result of management's cost reduction programs implemented throughout 2003 including workforce cutbacks, elimination of non-essential expenses and exercising tighter constraint over overhead costs in general.

For the year ended December 31, 2003, interest and financing fees increased by $22,000 to $242,000, an increase of 10%. The increase was due solely to an increase in 2003 in the interest rate on the Note due the Credit Managers Association of California for $3.2 million per the terms of the Note.

Our $3,186,000 net loss for the year ended December 31, 2003 is $412,000 less than the loss incurred in 2002 of $3,598,000, a decrease of 11%. Excluding the bad debt charge of $595,000 for the AVS bankruptcy and the write-down of the Hawaii tram of $200,000, our loss for the year would have been $1,207,000 less, or $2,391,000 for the year ended December 31, 2003, over 34% lower than that incurred in 2002.

Hyundai-Enova Innovative Technology Center

In September 2003, Hyundai Heavy Industries, Co. Ltd. (HHI) and we funded the Hyundai-Enova Innovative Technology Center (HEITC) to be located at Enova's Torrance headquarters. In connection with the Joint Venture Agreement entered into between the two parties in March 2003, HHI purchased $1,500,000 of common stock of Enova Systems, Inc. HHI purchased 23,076,923 shares representing a 6.2% ownership in Enova. Of this amount, we invested $1,000,000 in the HEITC for a forty percent (40%) ownership interest. HHI invested an additional $1,500,000 for a sixty percent (60%) ownership interest in the HEITC. In September 2004, HHI invested an additional $1,500,000 in Enova and $1,500,000 in the HEITC under the same terms as the initial investment. In this second tranche, HHI purchased 11,335,315 restricted shares of common stock in accordance with the Joint Venture Agreement increasing HHI's ownership to 8.0% in Enova. The joint venture company officially opened in November 2003 to pursue advanced research and development in hybrid automotive and stationary applications for fuel cell technologies.

Recent accounting pronouncements

In November 2004, the FASB issued SFAS No. 151,"Inventory Costs". SFAS No. 151 amends the accounting for abnormal amounts of idle facility expense, freight, handling costs, and wasted material (spoilage) under the guidance in ARB No. 43, Chapter 4, "Inventory Pricing". Paragraph 5 of ARB No. 43, Chapter 4, previously stated that ". . . under some circumstances, items such as idle facility expense, excessive spoilage, double freight, and rehandling costs may be so abnormal as to require treatment as current period charges. . . ." This

statement requires that those items be recognized as current-period charges regardless of whether they meet the criterion of "so abnormal." In addition, this statement requires that allocation of fixed production overheads to the costs of conversion be based on the normal capacity of the production facilities. This statement is effective for inventory costs incurred during fiscal years beginning after June 15, 2005. Management does not expect adoption of SFAS No. 151 to have a material impact, if any, on our financial position or results of operations.

In December 2004, the FASB issued SFAS No. 152, "Accounting for Real Estate Time-Sharing Transactions". The FASB issued this statement as a result of the guidance provided in AICPA Statement of Position (SOP) 04-2, "Accounting for Real Estate Time-Sharing Transactions". SOP 04-2 applies to all real estate time-sharing transactions. Among other items, the SOP provides guidance on the recording of credit losses and the treatment of selling costs, but does not change the revenue recognition guidance in SFAS No. 66, "Accounting for Sales of Real Estate", for real estate time-sharing transactions. SFAS No. 152 amends Statement No. 66 to reference the guidance provided in SOP 04-2. SFAS No. 152 also amends SFAS No. 67, "Accounting for Costs and Initial Rental Operations of Real Estate Projects", to state that SOP 04-2 provides the relevant guidance on accounting for incidental operations and costs related to the sale of real estate time-sharing transactions. SFAS No. 152 is effective for years beginning after June 15, 2005, with restatements of previously issued financial statements prohibited. Management does not expect adoption of SFAS No. 152 to have a material impact, if any, on our financial position or results of operations.

In December 2004, the FASB issued SFAS No. 153, "Exchanges of Nonmonetary Assets," an amendment to Opinion No. 29, "Accounting for Nonmonetary Transactions". SFAS No. 153 eliminates certain differences in the guidance in Opinion No. 29 as compared to the guidance contained in standards issued by the International Accounting Standards Board. The amendment to Opinion No. 29 eliminates the fair value exception for nonmonetary exchanges of similar

productive assets and replaces it with a general exception for exchanges of nonmonetary assets that do not have commercial substance. Such an exchange has commercial substance if the