

ENOVA SYSTEMS INC
Form 10-K
March 26, 2010

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
Form 10-K

- þ** **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2009
- Or**
- o** **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from to

Commission file no. 1-33001

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

California
*(State or Other Jurisdiction of
Incorporation or Organization)*

95-3056150
*(I.R.S. Employer
Identification Number)*

1560 West 190th Street, Torrance, California 90501
(Address of principal executive offices, including zip code)

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

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, no par value	The NYSE Amex

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act: Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act: Yes ☐ No ☒

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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 ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☐ 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 a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☒
(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act.) Yes ☐ No ☒

As of June 30, 2009, the approximate aggregate market value of common stock held by non-affiliates of the Registrant was \$7,024,000 (based upon the closing price for shares of the Registrant's common stock as reported by The NYSE Amex). As of March 1, 2010, there were 31,404,336 shares of common stock, no par value, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

None.

ENOVA SYSTEMS, INC.

2009 FORM 10-K ANNUAL REPORT

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PART I

ITEM 1. *BUSINESS*

General

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

Enova believes it is a leader in the development, design and production of proprietary, power train systems and related components for electric and hybrid electric buses and medium and heavy duty commercial vehicles and stationary power generation systems. Electric drive systems are comprised of an electric motor, an electronics control unit and a gear unit which power a vehicle. Hybrid electric systems, which are similar to pure electric drive systems, contain an internal combustion engine in addition to the electric motor, and may eliminate 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.

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 powertrain systems including digital power conversion, power management and system integration, focusing chiefly on vehicle power generation.

Specifically, we develop, design and produce drive systems and related components for electric, hybrid electric and fuel cell powered vehicles in both the new and retrofit markets. We also develop, design and produce power management and power conversion components for stationary distributed power generation systems. Additionally, we perform internal research and development (R&D) and funded third party R&D to augment our product development and support our customers.

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 all-electric, pre-transmission parallel hybrid, post-transmission parallel hybrid and series hybrid medium and heavy-duty drive systems for multiple vehicle applications. A parallel hybrid system is one where both the internal combustion engine and the electric motor are connected to the drive shaft; a series hybrid system is one where only the electric motor connects to the drive shaft. We believe medium and heavy-duty drive system sales offer Enova the greatest return on investment in both the short and long term. We believe the medium and heavy-duty hybrid market s best chances of significant growth lie in identifying and pooling the largest possible numbers of early adopters in high-volume applications. By aligning ourselves with key customers and integrating with original equipment manufacturers (OEMs) in our target markets, we believe that alliances will result in the latest technology being implemented and customer requirements being met, with an optimized level of additional time and expense. As we penetrate new market areas, we are continually refining both our market strategy and our product line to maintain our leading edge in power management and conversion systems for vehicle applications.

Our website, www.enovasystems.com, contains up-to-date information on our company, our products, programs and current events. Our website is a prime focal point for current and prospective customers, investors and other affiliated parties seeking additional information on our business.

We continue to develop existing relationships and enter into new development programs with both governmental and private industry with regards to both commercial and military application of our electric and hybrid electric 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 2010 and beyond, there are no assurances that such additional agreements will be realized.

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During 2009, we continued to develop and produce electric and hybrid electric drive systems and components for First Auto Works of China (FAW), Navistar Corporation (Navistar), Tanfield Engineering Plc (Tanfield) and the US Military as well as several other domestic and international vehicle and bus manufacturers. We also were successful in introducing our technology to Freightliner Custom Chassis Corporation (Freightliner) in 2009. Our various electric and hybrid-electric drive systems, power management and power conversion systems are being used in applications including several light, medium and heavy duty trucks, train locomotives, transit buses and industrial vehicles.

Enova believes that its business outlook will continue to improve, especially in light of messages from the governments in the United States, China and the United Kingdom regarding their intentions to mandate the reduction of green house gas emissions in the future as well as intentions to provide government incentives that may induce consumption of our products and services. The Company implemented the following operational changes in 2009 laying the groundwork to benefit from these factors while also reducing our cost structure:

The Company received its certification for ISO 9001:2000 for Quality and ISO 14001 for Environmental Management over our operational and manufacturing processes in the first quarter of 2009. In order to receive ISO certifications for quality and environmental management systems, an organization must demonstrate operating systems and procedures for managing its processes to consistently turn out products and services that meet customer and regulatory requirements, as well as identify and control the environmental impact of its activities, products or services.

The Company implemented a formal kaizen process from the second quarter of 2009 aiming to improve manufacturing line efficiency and production capacity, which included the reconfiguration of the production floor and improved assembly and testing processes that resulted in a 30% increase in capacity and improved product quality. As a result of these efforts, we were able to deliver a record 200 systems to FAW in the third quarter of 2009 without increasing production employee headcount.

In the second quarter of 2009, we completed reorganization efforts aimed to align our engineering and program management functions in support of key customer and product development initiatives. This included streamlining our management structure and implementing a 36% reduction of our employee headcount in 2009 as compared to 2008. As the financial structure of the Company improved in the second half of 2009, management has approved increasing headcount in key areas of engineering in the first quarter of 2010 in support of new product launches planned during this fiscal year.

For the year ended December 31, 2009, the following customers each accounted for more than ten percent (10%) of our total revenues:

Customer	Percent
First Auto Works Group Corporation	56%
Navistar, Inc.	15%
Hawaii Center for Advanced Transportation Technologies	13%

Climate Change Initiatives and Environmental 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 Europe and in the U.S. at the federal level and in certain states, to promote the use of zero or low emission vehicles. We believe legislation requiring or promoting zero or low emission vehicles is necessary to create a significant market for both hybrid electric (HEV) and electric vehicles (EV).

The California Air Resources Board (CARB) is continually modifying its limits for low emission vehicles and recently accelerated the progress of Governor Arnold Schwarzenegger 's Executive Order S-01-07, the Low Carbon Fuel Standard (LCFS). The LCFS calls for a reduction of at least 10 percent in the carbon intensity of California 's transportation fuels by 2020. Also, the U.S. Environmental Protection Agency (EPA) found that six greenhouse gases (carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆)) taken in combination endanger both the public health and public welfare of current and future generations. The EPA also found that the combined

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emissions of these greenhouse gases from motor vehicles and internal combustion engines contribute to the greenhouse gas air pollution that endangers public health and welfare under the Clean Air Act, Section 202(a). The Company believes these types of government findings are beneficial to a more prompt transition into alternative fuel vehicle commercialization and may act as a catalyst for demand of our products. However, there are no assurances revenues from these government regulations will be realized.

As part of a New Energy for America plan, the current U.S. administration has proposed implementing a wide array of government initiatives and laws which are designed to be environmentally-friendly. Proposals such as an increase in fuel economy standards (i.e. CAFE), placing one million plug-in electric vehicles on the road by 2015, financing in the form of tax credits and loan guarantees to domestic auto and parts manufacturers (i.e. ATVM Loan Program and Heavy Duty Hybrid Tax Credit), establishing a national low carbon fuel standard, and investing in an electrical infrastructure are all considered by management to be conducive to an environment where our products and services may thrive. In order to advance these types of initiatives by using the U.S. government as a model, President Barack Obama signed Executive Order No. 13514 titled Federal Leadership in Environment, Energy, and Economic Performance. This Executive Order directs Federal agencies to set 2020 greenhouse gas emissions reduction targets, increase energy efficiency, reduce fleet petroleum consumption by 30% by 2020, conserve water, reduce waste, support sustainable communities, and leverage Federal purchasing power to promote environmentally responsible products and technologies. The Company believes these types of initiatives may assist in a more prompt transition into alternative fuel vehicle commercialization. Although the Company believes these planned initiatives will be pursued by the current U.S. administration, there are no assurances any revenues will be realized from such proposals or initiatives.

As part of the American Recovery and Reinvestment Act of 2009, the U.S. Department of Energy announced funding opportunities in the form of cost-share grants for supporting the construction of U.S. based manufacturing plants to produce batteries and electric drive components, and to establish development, demonstration, evaluation, and education projects to accelerate the market introduction and penetration of advanced electric drive vehicles. Smith Electric Vehicles U.S. subsidiary received a grant of \$10 million under this program to accelerate the production plans at their new U.S. manufacturing facility. As production is ramped up, we anticipate the opportunity to continue to supply Smith's subsidiary with our all-electric vehicle drive systems that are used to power Smith's Newton trucks. Additionally, Navistar Truck also received a grant of \$39M to build an electric truck manufacturing facility and develop associated technologies.

In the United Kingdom, the Environmental Transformation Fund (ETF) was formed by the UK government in April 2008 as an initiative to move forward the commercialization of low carbon energy and energy efficiency technologies in the UK and developing countries. In particular, it focuses on the demonstration and deployment phases of bringing low carbon technologies to the market. The UK element of the ETF will total 400 million pounds sterling (approximately US\$600 million) from 2009 through 2011. Although the Company expects our customers to benefit from the ETF, there are no assurances revenues will be realized from such benefits.

In China, the Ministry of Environmental Protection reported that the Ministry of Industry and Information Technology, the National Development and Reform Commission and the Ministry of Science and Technology implemented policies in early 2010 on alternative-fuel vehicles and goals for a reduction in greenhouse gases as announced at the First China Green Energy Automotive Development Summit of 2008. In addition, the Ministry of Environmental Protection reported new energy vehicles are currently in low numbers as their costs to produce are high and incentives will be necessary to induce consumption. Although the Company expects our customer to benefit from these policies, there are no assurances revenues will be realized from such policies.

As our products reduce emissions and dependence on foreign energy, they 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.

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Strategic Alliances, Partnering and Technology Developments

Our continuing strategy is to adapt ourselves to the ever-changing environment of alternative fuel markets for mobile applications. Originally focusing on pure electric drive systems, we are currently positioned as a global supplier of drive systems for electric, hybrid and fuel cell applications.

We continue to seek and establish alliances with major players in the automotive and fuel cell fields. In 2009, Enova furthered its penetration into the U.S. and Asian markets. We believe the medium and heavy-duty hybrid market's best chances of significant growth lie in identifying and pooling the largest possible numbers of early adopters in high-volume applications. We will utilize our competitive advantages, including customer alliances, to gain greater market share. By aligning ourselves with key customers in our target market(s), we believe that the alliance will result in the latest technology being implemented and customer requirements being met, with a minimal level of additional time or expense.

Some recent highlights of our accomplishments are:

Freightliner Custom Chassis Corporation (FCCC), a division of Daimler Trucks North America, and Enova executed a letter of intent to enter into an all-electric commercial chassis development program. The development program includes close collaboration and will involve the engineering and integration of Enova's 120kW all-electric drive system technology into target FCCC chassis platforms, including the MT-45 walk-in van chassis. Freightliner's highest volume MT-45 chassis is used by a range of customers, including UPS and Federal Express. The strategic agreement consists of four phases that include the development of vehicles and placement into national fleets. Design, engineering, integration and testing activities will be conducted at the FCCC plant in Gaffney, SC and the Enova facility in Torrance, CA.

Enova was awarded an exclusive supplier contract with the U.S. General Services Administration (GSA), which provides vehicles for government agencies and armed forces. Under that contract, Enova will supply Enova Ze all-electric walk-in step vans to GSA under the Cargo Vans category. Enova also saw further federal fleet penetration via GSA with the Smith Electric Vehicles (Smith) Newton product offering in the Medium and Heavy Duty vehicle category. The Smith Newton is another exclusive, all-electric medium and heavy duty truck offering on the GSA product menu. Moreover, Navistar continued to demonstrate its leadership in the American school bus market with its exclusive GSA contract to supply hybrid school buses. Enova is the exclusive supplier of hybrid electric drive systems to IC Bus, an affiliated division of Navistar.

During 2009 Enova delivered 280 pre-transmission hybrid drive systems to First Auto Works (FAW) of China. FAW's Jiefang 12-meter hybrid bus can carry 103 passengers. These hybrid power buses are part of China's initiative to produce 500,000 electric and hybrid power vehicles. The initiative will account for 5% of the Chinese automobile market, which is in accordance with China's three-year development plan for its auto industry, released in February 2009.

Throughout 2009, we continued development on our next generation power management and drive system components such as a 170kW motor control unit and on-board battery charger. Our various electric and hybrid-electric drive systems, power management and power conversion systems continue to be used in applications including Class 1-7 trucks, transit buses, monorail systems, and heavy industrial vehicles. We also are continuing our current research and development programs with the U.S. Air Force as well as developing new programs with the U.S. government and other private sector companies for electric and hybrid systems.

Research and development programs included our advanced power management systems for fuel cells, 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 continue to optimize 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.

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Electric and Hybrid-Electric Drive Products

Enova's hybrid and electric drive systems provide all the functionality one would find under the hood of an internal combustion engine powered vehicle. The hybrid and electric power 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 hybrid and electric power system is designed to meet the customer's drive cycle requirements. Enova's all electric drive systems use largely the same designs as the hybrid systems, excepting that there is no internal combustion engine in the vehicle.

Our family of medium-duty drive systems includes:

- 30kW and 90kW all-electric drives

- 80/25kW hybrid drive

- 80/40kW hybrid drive

- 90kW 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 hybrid drive

- 240/120kW hybrid drive

Our hybrid drive systems, in conjunction with, internal combustion engines, microturbines, fuel cells, flywheels, and generator sets provide state of the art hybrid and 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, 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 connect 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 that turns the wheels. In a parallel hybrid system, both the electric motor and the ICE can operate simultaneously to drive the wheels (see diagrams below). 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.

Hybrid and Electric 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 we are

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currently introducing the Hybrid Power product line worldwide. All of our innovative hybrid drive systems are compatible with a wide range of fuel sources and engine configurations.

Series Hybrid with Diesel Generator

The Series Hybrid is typically ideal for low floor vehicles with a driving cycle that has a high percentage of stop and go and/or hilly terrain. Refuse trucks, urban delivery trucks and intra-city buses are the primary target markets for these drive systems.

Post Transmission Parallel Hybrid

The Post Transmission Parallel Hybrid is ideal for vehicles with a driving cycle with a high percentage of stop and go, as well as constant speed cruising. Target markets include refuse trucks, urban delivery trucks, school buses and intra-city buses.

Pre Transmission Parallel Hybrid

The Pre-Transmission Parallel Hybrid is ideal for vehicles with a driving cycle having a small percentage of constant speed cruising and a large percentage of stop and go cruising. Target markets include inter-city transit buses and trucks as well as military vehicles.

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All Electric Vehicle Drive System

The Electric Drive Systems works well with vehicles with a disciplined driving route that has a high percentage of stop and go conditions. Refuse trucks, urban delivery trucks and intra-city vehicles are the primary markets for these drive systems.

Definitions:

BCU Battery Care Unit; HCU Hybrid Control Unit; SDU Safety Disconnect Unit; VCU Vehicle Control Unit

CEU Control Electronics Unit (Houses MCU, DC-DC, and Charger); MCU Motor Control Unit;

EDM Electric Drive Motor; EDU Electric Drive Unit (Includes EDM & GDU); GDU Gear Drive Unit

GCU Generator Control Unit; EGM Electric Generator Motor; ICE Internal Combustion Engine

Electric 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 hybrid electric drive systems exclusively utilize induction AC motors for their high performance, power density, robustness 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.

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. We also offers optional controllers for the air conditioning, power steering and heat pumps, 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 Windows based software package, vehicle interfaces and control parameters can be programmed in-vehicle. Real-time vehicle performance parameters can be monitored and collected.

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Drive Systems

The Enova drive system family currently includes a 120/60kW peak series hybrid system, a 240/120kW peak series hybrid system, a 90kW peak mild, pre-transmission parallel hybrid system, a 90kW peak post-transmission parallel hybrid systems and our 80kW peak pre-transmission parallel hybrid system.

The Enova 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, chargers and 12-volt power supplies, as for the electric drive family.

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 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 also are 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 hybrid 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 charge. 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.

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Control Unit

Enova has reconfigured its Battery Care Unit to perform the critical role of hybrid controller. The 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 gracefully connect and disconnect from the battery pack, when necessary, to prevent damage or harm. It also protects 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

We provide 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.

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

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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. The device is approximately 7.1 inches by 4.3 inches by 1.6 inches.

Manufacturing Strategy

We have developed a multi-tiered manufacturing strategy that allows us 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. This closely managed outsourcing strategy helps Enova control product costs while also 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 prototyping, electronic files for manufacturing circuit cards are generated and sent to pre-qualified circuit card manufacturers. The vendors selected for this phase of manufacturing are specialists in low volume. They are able to provide quantities as small as a single square meter of circuit card. The completed circuit cards are inspected and populated by in our own prototype and low volume manufacturing facility. From circuit cards and other components sub assemblies are created and tested. Finally, a complete unit is assembled and tested.

For low volume manufacturing, where volumes are less than 10 to 20 units, the process is similar to that for prototyping. In this case however, the manufacturing of the entire circuit card is performed by an outside vendor. The circuit vendors selected for this phase are specialists in low volume circuit card manufacturing, automated component population, and testing. Upon receipt, the completed circuit cards are inspected and, together with other components, sub assemblies are created and tested. Finally, a complete unit is assembled and tested.

For higher volume manufacturing Enova has established strategic alliances with ISO certified manufacturers that can take on all aspects of the process from component sourcing to circuit card assembly, component assembly, final unit assembly and test. These completed components and units are shipped to our facility to where complete drive systems that meet the customer's unique requirements are packaged and shipped. In order to make this process as smooth as possible, Enova conducts a training session with the contract manufacturer here at our facility that covers the new product, assembly and test instructions, as well as the design package.

As our market continues to grow and individual customers begin to order higher quantities of fixed drive system configurations, we intend to 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 and they are prepared to execute this change upon our request. In light of our efforts to grow market share in our target markets and penetrate emerging ones, the Company acknowledged the principal barrier to commercialization of our drive systems is cost. The high cost of engineering proprietary software and hardware for our drive systems is high because economies of production in specialized hybrid drive system component parts, batteries, and vehicle integration have not been achieved. Therefore, the cost of our products and engineering services are currently higher than our gasoline and diesel competitor counterparts. We also believe maturation into commercialization of our drive systems will result in decreases to our long run average costs of materials and services as volume increases over time.

Our manufacturing strategy for mechanical components is somewhat more straightforward due to the nature of the final assemblies. ISO-900X certified contract manufacturers are in place that assemble and test motors to our

specification. These motors are shipped to our facility where they are mated with the appropriate gear reduction unit. For low volume manufacturing where the annual volume is less than 50 – 75 units, the gear units are assembled and tested in our prototype and low volume manufacturing facility. Completed motor/gear assemblies are tested at our facility and shipped out to the end customer as part of a complete drive system.

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For higher volume manufacturing we intend to transition the entire process of motor and gear assembly and test to a qualified contract manufacturer. Strategic manufacturing partners have been identified and are prepared to ramp up at our request.

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 Corporation, Azure Dynamics, UQM Technologies and others. The larger companies tend to focus on single solutions and 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 EV-HEV technologies for their application.

The competition to develop and market electric, hybrid and fuel cell powered vehicles continued to accelerate during the last year and we expect this trend to continue as newly elected administrations and governments in our target markets adapt initiatives that reduce greenhouse gas emissions. 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.

In the near term and beyond, we believe that governments will require manufacturers of engines to lower their products emissions substantially. The emerging technology in Hybrid Electric drive-trains can bring down emissions, while at the same time saving on fuel costs.

We believe the Hybrid Vehicle market is poised for growth over the medium and long term and that Enova's products are ready to participate in this market. Enova is positioned to capitalize on demands being placed on the market by offering solutions. Enova believes that our competitive advantages include:

Providing a full product line of power management, power conversion, and system integration

Providing products that allow the hardware to be software programmable and configurable

Offering a product line designed for the most advanced new fuel systems: electric, hybrid, fuel cell and solar power applications

Providing fully integrated, drop-in energy management and conversion system in one box

Offering systems with reduced footprint and weight, high functionality and low cost characteristics essential for all market applications

Meeting changing and sophisticated requirements of emerging alternative power markets and applications.

Positioning ourselves as a strategic ally with our global customer base, manufacturers and our R&D partners.

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By building a business based on long-standing relationships with satisfied clients such as Navistar, First Auto Works, Freightliner Custom Chassis Corporation and Tanfield, we believe we are simultaneously build defenses against competition. Teaming with recognized global manufacturers allows Enova to avoid devoting resources to manufacturing infrastructure and allows us access to production capacity at relatively low costs.

Research and Development

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 be remain competitive, minimize production costs and meet our customers specifications. Because microprocessors and other components continue to advance in speed, miniaturization and reduction of cost, we must re-examine its designs to take advantage of such developments. Enova endeavors to fund its R&D through customer contracts where applicable. We will, however, provide internal funding where technology development is critical to our future.

We are currently focusing our development efforts primarily in the following areas:

- Power Control and Drive Systems and related technologies for vehicle applications

- Heavy Duty Drive System development for Buses; Trucks, Industrial, Military and Marine applications

- Technical and product development under DOE/DOT/DOD contracts

- Development of new 12kW and 18kW Chargers

- Fuel Cell Generation system power management and process control

- Stationary Power Management and Conversion and related technologies

- Systems Integration of these technologies, and

- OEM Technical and Product development

For the years ended December 31, 2009, and 2008, we spent \$1,228,000, and \$2,505,000, 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 three U.S. patents and has one patent pending, relating to power management and control. 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. A majority of our intellectual property is contained within our software which we believe is best protected under trade secret intellectual property 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.

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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. If these agreements are breached, Enova may not have adequate remedies for any breach and 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, 2009, we had 34 full time employees. In addition, we employ two individuals as independent contractors engaged on a monthly basis.

Available and Additional Information

Included in Item 8 of this 10K are audited financial statements which include revenues, a measure of profit or loss and total assets.

We file electronically with the SEC our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934. We make available free of charge on or through our website copies of these reports as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. The SEC maintains an internet site that contains reports, proxy and information statements and other information regarding our filings at www.sec.gov. You may also read and copy any of our materials filed with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. Information regarding the operation of the Public Reference Room can be obtained by calling the SEC at 1-800-SEC-0330. Our website address is www.enovasystems.com. Information found on, or that can be accessed through, our website is not incorporated by reference into this annual report.

ITEM 1A. RISK FACTORS

The statements in this Section describe the major risks to our business and should be considered carefully. In addition, these statements constitute our cautionary statements under the Private Securities Litigation Reform Act of 1995.

This annual report on Form 10-K, including the documents that we incorporate by reference, contains statements indicating expectations about future performance and other forward-looking statements that involve risks and

uncertainties. We usually use words such as may, will, should, expect, plan, anticipate, believe, estimate, future, intend, potential, or continue or the negative of these terms or similar expressions to identify forward-looking statements. These statements appear throughout the Form 10-K and are statements regarding our current intent, belief, or expectation, primarily with respect to our operations and related industry developments. Examples of these statements include, but are not limited to, statements regarding the following: our expansion plans, our future operating expenses, our future losses, our future expenditures for

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research and development and the sufficiency of our cash resources. You should not place undue reliance on these forward-looking statements, which apply only as of the date of this annual report. Our actual results could differ materially from those anticipated in these forward-looking statements for many reasons, including the risks faced by us and described in this Risk Factors section and elsewhere in this annual report.

We cannot guarantee that any forward-looking statement will be realized, although we believe we have been prudent in our plans and assumptions. Achievement of future results is subject to risks, uncertainties and potentially inaccurate assumptions. Should known or unknown risks or uncertainties materialize, or should underlying assumptions prove inaccurate, actual results could differ materially from past results and those anticipated, estimated or projected. You should bear this in mind as you consider forward-looking statements.

We undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events or otherwise. You are advised, however, to consult any further disclosures we make on related subjects in our 10-Q and 8-K reports to the SEC. Also note that we provide the following cautionary discussion of risks, uncertainties and possibly inaccurate assumptions relevant to our businesses. These are factors that, individually or in the aggregate, we think could cause our actual results to differ materially from expected and historical results. We note these factors for investors as permitted by the Private Securities Litigation Reform Act of 1995. You should understand that it is not possible to predict or identify all such factors. Consequently, you should not consider the following to be a complete discussion of all potential risks or uncertainties.

Our history of operating losses and our expectation of continuing losses may hurt our ability to reach profitability or continue operations.

We have experienced significant operating losses since our inception. Our net loss was \$7,045,000 for the fiscal year ended December 31, 2009 and our accumulated deficit was \$136,708,000 as of December 31, 2009. It is likely that we will continue to incur substantial net operating losses for the foreseeable future, which may adversely affect our ability to continue operations. To achieve profitable operations, we must successfully develop and market our products. We may not be able to generate sufficient product revenue to become profitable. Even if we do achieve profitability, we may not be able to sustain or increase our profitability on a quarterly or yearly basis.

Because we depend upon sales to a limited number of customers, our revenues will be reduced if we lose a major customer

Our revenue is dependent on significant orders from a limited number of customers. We typically enter into supply agreements with major customers establishing product and price standards for future periods. Subsequent events may change the needs of the customer, requiring us to make corresponding adjustments. In the fiscal year ended December 31, 2009, FAW accounted for 56% of our total revenues and our largest four customers comprised 92% of revenues. We believe that revenues from major customers will continue to represent a significant portion of our revenues. This customer concentration increases the risk of quarterly fluctuations in our revenues and operating results. The loss or reduction of business from one or a combination of our significant customers could adversely affect our revenues, financial condition and results of operations. Moreover, our success will depend in part upon our ability to obtain orders from new customers, as well as the financial condition and success of our customers and general economic conditions.

We extend credit to our customers, which exposes us to credit risk

Most of our outstanding accounts receivable are from a limited number of large customers. At December 31, 2009, the four highest outstanding accounts receivable balances totaled approximately \$1,420,000 which represents 96% of our gross accounts receivable. If we fail to monitor and manage effectively the resulting credit risk and a material portion

of our accounts receivable is not paid in a timely manner or becomes uncollectible, our business would be significantly harmed, and we could incur a significant loss associated with any outstanding accounts receivable.

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Our business is affected by current economic and financial market conditions in the markets we serve

Current global economic and financial markets conditions, including severe disruptions in the credit markets and the significant and potentially prolonged global economic recession, may materially and adversely affect our results of operations and financial condition. We are particularly impacted by the global automotive slowdown and the effects on OEM inventory levels, production schedules, support for our products and decreased ability to accurately forecast future product demand. We could also be impacted in our ability to timely collect receivables from our customers and, conversely, reductions in the level and tightening of terms of trade credit available to us.

The nature of our industry is dependent on technological advancement and is highly competitive

The mobile and stationary power markets, including electric vehicle and hybrid electric vehicles, continue to be subject to rapid technological change. Most of the major domestic and foreign automobile manufacturers: (1) have already produced electric and hybrid vehicles, (2) have developed improved electric storage, propulsion and control systems, and/or (3) are now entering or have entered into production, while continuing to improve technology or incorporate newer technology. Various companies are also developing improved electric storage, propulsion and control systems. In addition, the stationary power market is still in its infancy. A number of established energy companies are developing new technologies. Cost-effective methods to reduce price per kilowatt have yet to be established and the stationary power market is not yet viable.

Our current products are designed for use with, and are dependent upon, existing technology. As technologies change, and subject to our limited available resources, we plan to upgrade or adapt our products in order to continue to provide products with the latest technology. We cannot assure you, however, that we will be able to avoid technological obsolescence, that the market for our products will not ultimately be dominated by technologies other than ours, or that we will be able to adapt to changes in or create leading edge technology. In addition, further proprietary technological development by others could prohibit us from using our own technology.

Our industry is affected by political and legislative changes

In recent years there has been significant public pressure to enact legislation in the United States and abroad to reduce or eliminate automobile pollution. Although states such as California have enacted such legislation, we cannot assure you that there will not be further legislation enacted changing current requirements 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 or hybrid electric vehicles. Extensions, modifications or reductions of current federal and state legislation, mandates and potential tax incentives could also adversely affect our business prospects if implemented.

We are subject to increasing emission regulations in a changing legislative climate

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). 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 continuing to modify its regulations regarding its mandatory limits for zero emission and low emission vehicles. Furthermore, several car manufacturers have challenged these mandates in court and have obtained injunctions to delay these mandates.

We may be unable to effectively compete with other companies who have significantly greater resources than we have

Although we were originally founded in 1976, our business just completed a migration into a production stage, and our proposed operations are subject to all of the risks inherent in the production stage, including the likelihood of continued operating losses. Many of our competitors, in the automotive, electronic and other industries, are larger, more established companies that have substantially greater financial, personnel, and other resources than we do. These companies may be actively engaged in the research and development of power management and

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conversion systems. Because of their greater resources, some of our competitors may be able to adapt more quickly to new or emerging technologies and changes in customer requirements, or to devote greater resources to the promotion and sales of their products than we can. We believe that developing and maintaining a competitive advantage will require continued investment in product development, manufacturing capability and sales and marketing. We cannot assure you however that we will have sufficient resources to make the necessary investments to do so. In addition, current and potential competitors may establish collaborative relationships among themselves or with third parties, including third parties with whom we have relationships. Accordingly, new competitors or alliances may emerge and rapidly acquire significant market share.

We may be exposed to product liability or tort claims if our products fail, which could adversely impact our results of operations

A malfunction or the inadequate design of our products could result in product liability or other tort claims. Accidents involving our products could lead to personal injury or physical damage. Any liability for damages resulting from malfunctions could be substantial and could materially adversely affect our business and results of operations. In addition, a well-publicized actual or perceived problem could adversely affect the market's perception of our products. This could result in a decline in demand for our products, which would materially adversely affect our financial condition and results of operations.

We are highly dependent on a few key personnel and will need to retain and attract such personnel in a labor competitive market

Our success is largely dependent on the performance of our key management and technical personnel, the loss of one or more of whom could adversely affect our business. Additionally, in order to successfully implement our anticipated growth, we will be dependent on our ability to hire additional qualified personnel. There can be no assurance that we will be able to retain or hire other necessary personnel. We do not maintain key man life insurance on any of our key personnel. We believe that our future success will depend in part upon our continued ability to attract, retain, and motivate additional highly skilled personnel in an increasingly competitive market.

There are minimal barriers to entry in our market

We presently license or own only certain proprietary technology, and therefore have created little or no barrier to entry for competitors other than the time and significant expense required to assemble and develop similar production and design capabilities. Our competitors may enter into exclusive arrangements with our current or potential suppliers, thereby giving them a competitive edge which we may not be able to overcome, and which may exclude us from similar relationships.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

Our corporate offices are located at an office and manufacturing facility at 1560 West 190th Street, Torrance, California. We lease this 43,000 square foot office and manufacturing facility. Enova also rents offices in Hawaii and Michigan on a month-to-month basis.

ITEM 3. LEGAL PROCEEDINGS

We are subject to a number of lawsuits, investigations and disputes (some of which involve substantial amounts claimed) arising out of the conduct of our business, including matters relating to commercial transactions. We recognize a liability for any contingency that is probable of occurrence and reasonably estimable. We continually assess the likelihood of adverse outcomes in these matters, as well as potential ranges of probable losses (taking into consideration any insurance recoveries), based on a careful analysis of each matter with the assistance of outside legal counsel and, if applicable, other experts.

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Given the uncertainty inherent in litigation, we do not believe it is possible to develop estimates of the range of reasonably possible loss in excess of current accruals for these matters. Considering our past experience and existing accruals, we do not expect the outcome of these matters, either individually or in the aggregate, to have a material adverse effect on our consolidated financial position. Because most contingencies are resolved over long periods of time, potential liabilities are subject to change due to new developments, changes in settlement strategy or the impact of evidentiary requirements, which could cause us to pay damage awards or settlements (or become subject to equitable remedies) that could have a material adverse effect on our results of operations or operating cash flows in the periods recognized or paid.

In December 2008, a contractor, Arens Controls Company, L.L.C., filed suit in the Northern District of Illinois of the U.S. District Court, alleging that a breach of contract occurred on purchase commitments for inventory purchased on our behalf. Enova notified the contractor of cancellation of the order, at which time it was required to mitigate all associated exposure. We assert that the contractor did not, in good faith, mitigate such exposure and we will continue to contest this matter vigorously. Accordingly, we do not believe that a liability is reasonably estimable with respect to this claim and we have not recorded a provision for this claim on our financial statements.

ITEM 4. *RESERVED***PART II****ITEM 5. *MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES***

Shares of our common stock now trade on the NYSE Amex under the same and previous trading symbol *ENA* and on the London Stock Exchange AIM Market under the symbol *ENVS.L* or *ENV.L*. Our common stock became listed on the NYSE Amex on August 29, 2006. The following table sets forth the high and low sales closing prices of our Common Stock as reflected on the NYSE Amex.

	Common Stock	
	High Price	Low Price
Calendar 2009		
Fourth Quarter	\$ 1.94	\$ 1.00
Third Quarter	\$ 1.45	\$ 0.51
Second Quarter	\$ 1.08	\$ 0.60
First Quarter	\$ 0.97	\$ 0.21
Calendar 2008		
Fourth Quarter	\$ 2.20	\$ 0.35
Third Quarter	\$ 3.87	\$ 1.85
Second Quarter	\$ 5.58	\$ 3.80
First Quarter	\$ 4.86	\$ 3.51

As of December 31, 2009, there were approximately 1,491 holders of record of our Common Stock. As of December 31, 2009, 100 shareholders, many of whom are also Common Stock shareholders, held our Series A Preferred Stock. As of December 31, 2009, approximately 32 shareholders 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.

Table of Contents**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, 2009, Enova had an accumulated deficit of approximately \$136,708,000 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, 2009, 2008, 2007, 2006, and 2005. The statement of operations data and balance sheet data for and as of the years ended December 31, 2009, 2008, 2007, 2006, and 2005 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 Form 10-K.

	For and as of the Years Ended December 31,				
	2009	2008	2007	2006	2005
	(In thousands, except per share data)				
Statement of Operations Data					
Net revenues	\$ 5,622	\$ 6,443	\$ 9,175	\$ 1,666	\$ 6,084
Cost of revenues	5,016	8,224	10,313	2,900	6,001
Gross profit (loss)	606	(1,781)	(1,138)	(1,234)	83
Operating expenses					
Research and development	1,228	2,505	1,947	1,363	804
Selling, general and administrative	6,223	8,692	6,428	4,178	2,870
Total operating expenses	7,451	11,197	8,375	5,541	3,674
Other income and (expense)					
Interest and other income (expense), net	(196)	202	343	550	13
Equity in losses of non-consolidated joint venture, net	(4)	(118)	(177)	(3)	(118)
Gain on debt restructuring				1,392	1,569
Total other income, net	(200)	84	166	1,939	1,464
Net loss	\$ (7,045)	\$ (12,894)	\$ (9,347)	\$ (4,836)	\$ (2,127)
Per common share:					
Basic and diluted loss per share	\$ (0.33)	\$ (0.66)	\$ (0.59)	\$ (0.33)	\$ (0.18)
	21,385	19,660	15,796	14,802	11,644

Weighted average number of common shares
outstanding

Balance Sheet Data

Total assets	\$ 22,011	\$ 19,242	\$ 21,173	\$ 15,730	\$ 21,973
Long-term debt	\$ 1,286	\$ 1,263	\$ 1,306	\$ 1,295	\$ 2,321
Shareholders' equity	\$ 17,247	\$ 14,143	\$ 14,177	\$ 11,964	\$ 16,604

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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 2009 Financial Statements and accompanying Notes. The matters addressed in this Management's Discussion and Analysis of Financial Condition and Results of Operations, may contain certain forward-looking statements involving risks and uncertainties.

Overview

Enova Systems believes it is a leading innovator of proprietary hybrid and electric drive systems propelling the alternative energy industry. 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 medium 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 Navistar Corporation, First Auto Works, Freightliner Customer Chassis Corporation, Hyundai Motor Company and Ford Motor Company, trucks and buses for Tanfield and its U.S. subsidiary, Smith Electric Vehicles, Wright Bus, Optare Plc and the U.S. Military, as well as digital power systems for EDO and other major manufacturers.

We continue to support Navistar in their efforts to maximize exposure in the hybrid school bus market. We have been involved in large shows in St. Louis, MO, Washington, DC and the Principality of Monaco as well as smaller venues throughout the Midwest. The exposure via shows and direct interface will be aggressively pursued throughout the remainder of 2010 in an effort to promote our drive systems production intent for medium and heavy duty applications.

Some notable highlights of Enova's accomplishments in 2009 are:

Enova achieved its certification for ISO 9001:2000 for Quality and ISO 14001 for Environmental Management over its operational and manufacturing processes. In order to receive ISO certifications for quality and environmental management systems, an organization must demonstrate operating systems and procedures for managing its processes to consistently turn out products and services that meet customer and regulatory requirements, as well as identify and control the environmental impact of its activities, products or services.

Our customer, Navistar, with Enova Systems as a co-applicant, was selected to receive a cost-shared award of up to \$10 million under the Department of Energy Plug-in Hybrid Electric Vehicle (PHEV) Technology Acceleration and Deployment Activity program to develop and deploy 60 plug-in electric hybrid school buses, including engine-off all-electric drive capability.

Enova was awarded an exclusive supplier contract with the U.S. General Services Administration (GSA), which provides vehicles for government agencies and armed forces. Under this contract, Enova will supply Enova Ze all-electric walk-in step vans to GSA under the Cargo Vans category.

Freightliner Custom Chassis Corporation (FCCC), a division of Daimler Trucks North America, executed a letter of intent with Enova to enter into an all-electric commercial chassis development program. The development program includes close collaboration and will involve the engineering and integration of Enova's 120kW all-electric drive system technology into target FCCC chassis platforms, including the MT-45 walk-in van chassis. FCCC's highest volume MT-45 chassis is used by a range of customers including UPS and Federal Express. The strategic agreement consists of four phases that include the development of vehicles and

placement into national fleets. Design, engineering, integration and testing activities will be conducted at the FCCC plant in Gaffney, SC and the Enova facility in Torrance, CA.

Enova delivered 280 pre-transmission hybrid drive systems to First Auto Works (FAW) of China. FAW 's Jiefang 12-meter hybrid bus can carry 103 passengers. These hybrid power buses are part of China 's initiative to produce 500,000 electric and hybrid power vehicles. The initiative will account for 5% of the

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Chinese automobile market, which is in accordance with China's three-year development plan for its auto industry, released in February 2009.

Enova saw further federal fleet penetration potential via GSA with the Smith Electric Vehicles (Smith) Newton product offering in the Medium and Heavy Duty vehicle category. The Smith Newton is another exclusive, all-electric medium and heavy duty truck offering on the GSA product menu. Moreover, Navistar continued to demonstrate its leadership in the American school bus market with its exclusive GSA contract to supply hybrid school buses. Enova is the exclusive supplier of hybrid electric drive systems to IC Bus, an affiliated division of Navistar.

The state of Kentucky won a \$13 million Department of Energy Clean Cities Grant for hybrid school buses. Our customer, Navistar Corporation, claims 90% of the market for school buses in Kentucky. Enova has already installed our post-transmission hybrid drive system with a new, lighter weight lithium ion battery in a demonstration bus. Other Clean Cities grants may be available for an additional \$5 million. We continue to work closely with Navistar and anticipate we may benefit from these programs starting in 2010.

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 in hybrid and electric vehicles, fuel cell 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 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. 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 9001 manufacturing and quality standards. We believe 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.

In light of our efforts to grow market share in our target markets and penetrate emerging ones, the Company continues to acknowledge the principal barrier to commercialization of our drive systems is cost. The cost of engineering proprietary software and hardware for our drive systems is high because economies of production in specialized hybrid drive system component parts, batteries, and vehicle integration have not been achieved. Therefore, the cost of our products and engineering services are currently higher than our gasoline and diesel competitor counterparts. We also believe maturation into commercialization of our drive systems will result in decreases to our long run average costs of materials and services as volume increases over time.

Critical Accounting Policies

The following represents a summary of our critical accounting policies, defined as those policies that we believe: (a) are the most important to the portrayal of our financial condition and results of operations and (b) involve inherently uncertain issues which require management's most difficult, subjective or complex judgments.

Cash and cash equivalents Cash consists of currency held at reputable financial institutions. Short-term, highly liquid investments with an original maturity of three months or less are considered cash equivalents.

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Allowance for doubtful accounts The allowance for doubtful accounts is the Company's best estimate of the amount of probable credit losses in the Company's existing accounts receivable; however, changes in circumstances relating to accounts receivable may result in a requirement for additional allowances in the future. Past due balances over 90 days and other higher risk amounts are reviewed individually for collectibility. If the financial condition of the Company's customers were to deteriorate resulting in an impairment of their ability to make payment, additional allowances may be required. In addition, the Company maintains a general reserve for all invoices by applying a percentage based on the age category. Account balances are charged against the allowance after all collection efforts have been exhausted and the potential for recovery is considered remote.

Inventory Inventories are priced at the lower of cost or market utilizing the first-in, first-out (FIFO) cost flow assumption. 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.

Inventory reserve We maintain an allowance against inventory for the potential future obsolescence or excess inventory. 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 our 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 revenues in the period the revision is made.

Property and Equipment Property and equipment are stated at cost and depreciated over the estimated useful lives of the related assets, which range from three to seven years using the straight-line method for financial statement purposes. The Company uses other depreciation methods (generally, accelerated depreciation methods) for tax purposes where appropriate. Amortization of leasehold improvements is computed using the straight-line method over the shorter of the remaining lease term or the estimated useful lives of the improvements.

Repairs and maintenance are expensed as incurred. Expenditures that increase the value or productive capacity of assets are capitalized. When property and equipment are retired, sold, or otherwise disposed of, the asset's cost and related accumulated depreciation are removed from the accounts and any gain or loss is included in operations.

Impairment of Long-Lived Assets The Company assesses the impairment of its long-lived assets periodically in accordance with the provisions of FASB ASC 360-10-35-15, *Impairment or Disposal of Long-Lived Assets*. The Company reviews the carrying value of property and equipment for impairment whenever events and circumstances indicate that the carrying value of an asset may not be recoverable from the estimated future cash flows expected to result from its use and eventual disposition. In cases where undiscounted expected future cash flows are less than the carrying value, an impairment loss is recognized equal to an amount by which the carrying value exceeds the fair value of assets. The factors considered by management in performing this assessment include current operating results, trends, and prospects, as well as the effects of obsolescence, demand, competition, and other economic factors. Long-lived assets that management commits to sell or abandon are reported at the lower of carrying amount or fair value less cost to sell.

Equity Method Investment Investment in ITC, a joint venture is accounted for by the equity method. Under the equity method of accounting, an investee company's accounts are not reflected within the Company's balance sheets or statements of operations; however, the Company's share of the earnings or losses of the investee company is reflected in the caption *Equity in losses of non-consolidated joint venture* in the statements of operations. The Company's carrying value in an equity method joint venture company is reflected in the caption *Investment in non-consolidated joint venture* in the Company's balance sheets.

Stock-Based Compensation The Company calculates stock-based compensation expense in accordance with FASB ASC Topic 718, Compensation-Stock Compensation (ASC 718). This pronouncement requires the measurement and recognition of compensation expense for all share-based payment awards made to employees and directors, including employee stock options, to be based on estimated fair values.

The Company's determination of estimated fair value of share-based awards utilizes the Black-Scholes option-pricing model. The Black-Scholes model is affected by the Company's stock price as well as assumptions regarding

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certain highly complex and subjective variables. These variables include, but are not limited to; the Company's expected stock price volatility over the term of the awards as well as actual and projected employee stock option exercise behaviors.

Revenue recognition The Company manufactures proprietary products and other products based on design specifications provided by its customers. The Company recognizes revenue only when all of the following criteria have been met:

Persuasive evidence of an arrangement exists;

Delivery has occurred or services have been rendered;

The fee for the arrangement is fixed or determinable; and

Collectibility is reasonably assured.

Persuasive Evidence of an Arrangement The Company documents all terms of an arrangement in a written contract signed by the customer prior to recognizing revenue.

Delivery Has Occurred or Services Have Been Rendered The Company performs all services or delivers all products prior to recognizing revenue. Professional consulting and engineering services are considered to be performed when the services are complete. Equipment is considered delivered upon delivery to a customer's designated location. In certain instances, the customer elects to take title upon shipment.

The Fee for the Arrangement is Fixed or Determinable Prior to recognizing revenue, a customer's fee is either fixed or determinable under the terms of the written contract. Fees for professional consulting services, engineering services and equipment sales are fixed under the terms of the written contract. The customer's fee is negotiated at the outset of the arrangement and is not subject to refund or adjustment during the initial term of the arrangement.

Collectibility is Reasonably Assured The Company determines that collectibility is reasonably assured prior to recognizing revenue. Collectibility is assessed on a customer-by-customer basis based on criteria outlined by management. New customers are subject to a credit review process, which evaluates the customer's financial position and ultimately its ability to pay. The Company does not enter into arrangements unless collectibility is reasonably assured at the outset. Existing customers are subject to ongoing credit evaluations based on payment history and other factors. If it is determined during the arrangement that collectibility is not reasonably assured, revenue is recognized on a cash basis. Amounts received upfront for engineering or development fees under multiple-element arrangements are deferred and recognized over the period of committed services or performance, if such arrangements require the Company to provide on-going services or performance. All amounts received under collaborative research agreements or research and development contracts are nonrefundable, regardless of the success of the underlying research.

FASB ASC 605-25 Revenue Recognition-Multiple-Element Arrangements (ASC 605-25) addresses the accounting for arrangements that may involve the delivery or performance of multiple products, services and/or rights to use assets. Specifically, ASC 605-25 requires the recognition of revenue from milestone payments over the remaining minimum period of performance obligations. As required, the Company applies the principles of ASC 605-25 to multiple element agreements.

The Company also recognizes engineering and construction contract revenues using the percentage-of-completion method, based primarily on contract costs incurred to date compared with total estimated contract costs. Customer-furnished materials, labor, and equipment, and in certain cases subcontractor materials, labor, and

equipment, are included in revenues and cost of revenues when management believes that the company is responsible for the ultimate acceptability of the project. Contracts are segmented between types of services, such as engineering and construction, and accordingly, gross margin related to each activity is recognized as those separate services are rendered.

Changes to total estimated contract costs or losses, if any, are recognized in the period in which they are determined. Claims against customers are recognized as revenue upon settlement. Revenues recognized in excess of

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amounts billed are classified as current assets under contract work-in-progress. Amounts billed to clients in excess of revenues recognized to date are classified as current liabilities on contracts.

Changes in project performance and conditions, estimated profitability, and final contract settlements may result in future revisions to engineering and development contract costs and revenue.

These accounting policies were applied consistently for all periods 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.

Several other factors related to the Company may have a significant impact on our operating results from year to year. For example, the accounting rules governing the timing of revenue recognition related to product contracts are complex and it can be difficult to estimate when we will recognize revenue generated by a given transaction. Factors such as acceptance of services provided, payment terms, creditworthiness of the customer, and timing of delivery or acceptance of our products often cause revenues related to sales generated in one period to be deferred and recognized in later periods. For arrangements in which services revenue is deferred, related direct and incremental costs may also be deferred.

Research and Development In accordance with FASB ASC 730 Research and Development, research, development, and engineering costs are expensed in the year incurred. Costs of significantly altering existing technology are expensed as incurred.

Recent Accounting Pronouncements

In April 2008, the FASB issued guidance regarding the determination of the useful life of intangible assets. The guidance amends the factors that should be considered in developing renewal or extension assumptions used to determine the useful life of a recognized intangible asset. The guidance is effective for financial statements issued for fiscal years and interim periods beginning after December 15, 2008. Early adoption is prohibited. We adopted the guidance as of January 1, 2009, as required. The adoption of the guidance did not have a material impact on our financial statements.

In April of 2009, the FASB issued guidance in the Fair Value Measurements and Disclosures Topic of the Codification on determining fair value when the volume and level of activity for an asset or liability have significantly decreased and identifying transactions that are not orderly. The guidance emphasizes that even if there has been a significant decrease in the volume and level of activity, the objective of a fair value measurement remains the same. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. The guidance provides a number of factors to consider when evaluating whether there has been a significant decrease in the volume and level of activity for an asset or liability in relation to normal market activity. In addition, when transactions or quoted prices are not considered orderly, adjustments to those prices based on the weight of available information may be needed to determine the appropriate fair value. The guidance is effective for interim or annual reporting periods ending after June 15, 2009. The adoption of the new requirements did not have a material impact on our financial statements.

In April 2009, the FASB issued guidance on the recognition and presentation of other-than-temporary impairments. The guidance amends the other-than-temporary impairment guidance for debt securities to make the guidance more operational and to improve the presentation and disclosure of other-than-temporary impairments on debt and equity securities in the financial statements. The guidance does not amend existing recognition and measurement guidance related to other-than-temporary impairments of equity securities. The guidance is effective for interim and annual reporting periods ending after June 15, 2009. We adopted the guidance as of June 30, 2009, as required. The adoption

of the guidance did not have a material impact on our financial statements.

In April 2009, the FASB issued guidance regarding the accounting for assets acquired and liabilities assumed in a business combination that arise from contingencies. The guidance addresses application issues on initial recognition and measurement, subsequent measurement and accounting, and disclosure of assets and liabilities arising from contingencies in a business combination. The guidance is effective for all assets acquired or liabilities assumed arising from contingencies in business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008. We adopted the guidance as

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of January 1, 2009, as required. The adoption of the guidance did not have a material impact on our financial statements.

In May 2009, the FASB issued guidance now codified as ASC Topic 855, *Subsequent Events* ((ASC Topic 855) The guidance establishes general standards of accounting for and disclosure of events that occur after the balance sheet date but before financial statements are issued or are available to be issued. In addition, under the guidance, an entity is required to disclose the date through which subsequent events have been evaluated, as well as whether that date is the date the financial statements were issued or the date the financial statements were available to be issued. The guidance does not apply to subsequent events or transactions that are within the scope of other applicable GAAP that provide different guidance on the accounting treatment for subsequent events or transactions. The guidance is effective for interim or annual financial periods ending after June 15, 2009, and shall be applied prospectively. We adopted the guidance as of June 30, 2009, as required. The adoption of the guidance did not have a material impact on our financial statements. In February 2010, the FASB issued amended guidance on subsequent events. The amended guidance removes the requirement for United States Securities and Exchange Commission filers to disclose the date through which subsequent events have been evaluated. The amended guidance is effective upon issuance, except for the use of the issued date for conduit debt obligors. We adopted the amended guidance upon issuance, as required. The adoption of the amended guidance did not have a material impact on our financial statements. See Note 18 to the accompanying financial statements for the related disclosure.

In June of 2009, the FASB issued guidance now codified as FASB ASC Topic 105, *Generally Accepted Accounting Principles*, as the single source of authoritative nongovernmental U.S. GAAP. FASB ASC Topic 105 does not change current U.S. GAAP, but is intended to simplify user access to all authoritative U.S. GAAP by providing all authoritative literature related to a particular topic in one place. All existing accounting standard documents will be superseded and all other accounting literature not included in the FASB Codification will be considered non-authoritative. These provisions of FASB ASC Topic 105 are effective for interim and annual periods ending after September 15, 2009 and, accordingly, are effective for the Company for the current fiscal reporting period. The adoption of this pronouncement did not have an impact on our financial condition or results of operations, but will impact our financial reporting process by eliminating all references to pre-codification standards. On its effective date, the Codification superseded all then-existing non-SEC accounting and reporting standards, and all other non-grandfathered non-SEC accounting literature not included in the Codification became non-authoritative. We adopted the ASC as of September 30, 2009, as required. The adoption of the ASC did not have an impact on our financial statements.

In August 2009, the FASB issued guidance on the measurement of liabilities at fair value. The guidance provides clarification in measuring the fair value of liabilities. The guidance is effective for the first reporting period (including interim periods) beginning after issuance. We adopted the guidance as of October 1, 2009, as required. The Company does not expect the adoption of this guidance to have a material impact on our financial statements.

In October 2009, the FASB issued ASU No. 2009-13, *Revenue Recognition* (ASC Topic 605) *Multiple-Deliverable Revenue Arrangements, a consensus of the FASB Emerging Issues Task Force*. This guidance modifies the fair value requirements of ASC subtopic 605-25 *Revenue Recognition-Multiple Element Arrangements* by allowing the use of the best estimate of selling price for determining the selling price of a deliverable. A vendor is now required to use its best estimate of the selling price when vendor specific objective evidence or third-party evidence of the selling price cannot be determined. In addition, the residual method of allocating arrangement consideration is no longer permitted. This guidance is effective for the Company in 2011. The Company does not expect the adoption of ASU No. 2009-13 to have a significant impact on its financial statements.

In January 2010, the FASB issued guidance to address implementation issues related to the changes in ownership provisions in ASC 810, *Consolidation*, (ASC 810). The guidance clarifies the scope of the decrease in ownership

provisions in ASC 810 and expands the disclosures about the deconsolidation of a subsidiary or de-recognition of a group of assets within the scope of ASC 810. The guidance is effective beginning in the first interim or annual reporting period ending on or after December 15, 2009, and should be applied retrospectively to the first period that ASC 810 was adopted. The adoption of this guidance did not have a material impact on our financial statements.

Table of Contents**Results of Operations*****Years Ended December 31, 2009 and 2008***

Net Revenues. Net revenues were \$5,622,000 for the twelve months ended December 31, 2009, representing a decrease of \$821,000 or 13% from net revenues of \$6,443,000 during the same period in 2008. The decline in revenue in 2009 compared to 2008 is mainly due to a decrease in sales to Tanfield, due to a change in their growth strategy in the third quarter of 2008, as well as the completion of several low volume contracts for non-core customers in 2008. However, sales to FAW increased by over 11 times in 2009 due to Chinese government policies promoting the purchase of electric and hybrid vehicles in their auto market. FAW, Navistar and HCATT comprised 56%, 15% and 13%, respectively, of our 2009 revenues. In the prior year, Tanfield, Navistar and HCATT comprised 28%, 13% and 22%, respectively of our 2008 revenues, while FAW comprised only 4% of revenues in the period. The Company continued its strategy to concentrate support to core customers in 2009 in our migration to a first tier production company, recording sales with several OEMs, including FAW in China and Navistar, Freightliner and Smith Electric Vehicles in the United States. Although we have seen indications for future production growth, there can be no assurance there will be continuing demand for our products and services.

Cost of Revenues. Cost of revenues were \$5,016,000 for the year ended December 31, 2009, compared to \$8,224,000 for the year ended December 31, 2008, representing a decrease of \$3,208,000, or 39%. The improvement in cost of revenues as a percentage of revenue is primarily attributable to our strategy to concentrate on higher volume production orders and our continuing focus on manufacturing and inventory processes that resulted in tighter control over production costs. Cost of revenues consists of component and material costs, direct labor costs, integration costs and overhead related to manufacturing our products as well as inventory valuation reserve amounts. 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. Our customers continue to require additional integration and support services to customize, integrate and evaluate our products. We believe that a portion of these costs are initial, one-time costs for these customers and anticipate similar costs to be incurred with respect to new customers as we pursue a greater market share. Typically we do not incur these same types of costs for customers who have been using our products over one year.

Gross Margin. The gross margin for the year ended December 31, 2009 was positive 11% compared to a negative 28% in the prior year. The improvement in gross margin is primarily attributable to our focus on key customer production contracts, maturity of our supply chain, and efficiencies gained through focus on manufacturing and inventory processes that resulted in tighter controls over production costs. As we continue to make deliveries on production contracts in 2010, we expect to achieve continued benefit from these initiatives, although we may continue to experience variability in our gross margin.

Research and Development Expenses. 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 expenses during the year ended December 31, 2009 were \$1,228,000 compared to \$2,505,000 for the same period in 2008, a decrease of \$1,277,000 or 51%. R&D costs were higher in 2008 due to expenditures to complete the development of our wireless tracking module, a one-time cost incurred for a dynamometer testing of our hybrid system and a higher level of resources expended for development projects. In 2009, R&D efforts were focused on development of our new Ze all electric vehicle, a next generation motor control unit, testing of new battery technologies as well as engine off capability for our post transmission parallel hybrid drive system. Development resources utilized in support of non-core development projects were reduced consistent with our focus on higher volume customers. We also continued to allocate necessary resources to the development and testing of upgraded proprietary control software, enhanced DC-DC converters and digital inverters and other power management firmware. 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. Selling, general and administrative expenses consist primarily of sales and marketing costs, including consulting fees and expenses for travel, trade shows and promotional activities and personnel and related costs for the quality and field service functions and general corporate functions, including finance, strategic and business development, human resources, IT and MRP implementation, accounting

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reserves and legal costs. Selling, general and administrative expenses decreased by \$2,469,000, or 28%, during the year ended December 31, 2009 to \$6,223,000 from \$8,692,000 in the prior year. The Company implemented a series of cost savings measures in response to the severe sales environment, including reducing employee headcount by over 50% from the 2008 peak, eliminating outside IT and marketing consultants, reducing legal and investor relations costs, and placing restrictions on travel and purchasing. In addition, a charge of \$575,000 in 2008 was recorded as a bad debt expense for outstanding receivable balances that were deemed unlikely to be collected, as compared to a bad debt expense of zero recorded in 2009.

Interest and Other Income (Expense). For the year ended December 31, 2009, interest and other income (expense) was a negative \$196,000, representing a decrease of \$398,000, or negative 197%, from \$202,000 in 2008. Interest income decreased as a result of the Company having a smaller average cash balance and lower interest rates on cash balances between the respective periods in 2009 and 2008. In 2009, the Company recorded a loss in settlement of a vendor dispute and a loss on disposal of metal molds of a discontinued model of an electric motor in 2009.

Equity in losses of non-consolidated joint venture. For the year ended December 31, 2009, ITC's operations generated an equity loss of \$10,000 utilizing the equity method of accounting for our interest in the pro-rata share of losses attributable to this investment, which represents a decrease of \$108,000, or 92%, from the \$118,000 equity loss in the year ended December 31, 2008. In addition, a gain of \$6,000 was recorded upon the dissolution of the joint venture in April 2009.

Liquidity and Capital Resources

We have experienced losses primarily attributable to research, development, marketing and other costs associated with our strategic plan as an international developer and supplier of electric drive 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. Our operations during the year ended December 31, 2009 were financed by product sales, working capital reserves and equity capital raises. At fiscal year end, the Company had \$13,278,000 of cash and cash equivalents and short term investments.

The Company had a secured revolving credit facility from Union Bank (the "Credit Agreement") for \$2,000,000 which expired on June 30, 2009. The Credit Agreement was secured by a \$2,000,000 certificate of deposit ("CD"). In June 2009, the Company renewed the Credit Agreement at a reduced principal amount of \$200,000, secured by a CD in the same amount, for a period of one year expiring on June 30, 2010. As a result, the amount of \$1,800,000 in the CD was rolled over at maturity into cash. The interest rate is the certificate of deposit rate plus 1.25% with interest payable monthly and the principal due at maturity. As of December 31, 2009, Union Bank has issued a \$200,000 irrevocable letter of credit in favor of Sunshine Distribution LP ("Landlord"), with respect to the lease of the Company's new corporate headquarters at 1560 West 190th Street, Torrance, California. We anticipate that the credit facility will be renewed with similar terms as the existing facility.

Net cash used in operating activities was \$3,409,000 for the year ended December 31, 2009 compared to \$13,582,000 for the prior year ended December 31, 2008. Cash used in operating activities was affected mostly by the cost of revenue, R&D, personnel and general operating costs, which was partially mitigated by our utilization of existing inventory balances to fulfill customer orders in 2009. Non-cash items included expenses for stock-based compensation, depreciation and amortization, inventory reserve, reserve for doubtful accounts, equity losses in our non-consolidated joint venture, and issuance of common stock for services.

Net cash from investing activities was \$1,802,000 for the year ended December 31, 2009 compared to net cash used of \$3,524,000 in the prior year. In conjunction with the reduction of our credit facility, as explained above, we redeemed a certificate of deposit for \$1,800,000 for use in operating activities. In addition, we received proceeds of \$137,000 from the dissolution of the Enova-ITC joint venture. Cash used in investing activities in 2008 was attributed to leasehold improvements and fixed asset purchases associated with our move into a new facility and the purchase of a certificate of deposit of \$2,000,000 used as security for the revolving credit facility.

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Net cash provided by financing activities totaled \$9,361,000 for the year ended December 31, 2009, compared to net cash provided of \$11,945,000 for the year ended December 31, 2008. On December 15, 2009, we raised capital through the placement of common stock. We sold 9,024,960 shares of common stock at \$1.00 per share to certain accredited investors, resulting in gross proceeds of \$9,024,960. In addition, we sold 1,323,200 shares of common stock at 62.5 pence per share (approximately US\$1.00 per share) to certain eligible offshore investors resulting in gross proceeds of approximately \$1,323,000. Costs related to our December 2009 equity raise were approximately \$928,000. During the first and second quarters of 2008, we raised capital through two placements of common stock. On April 3, 2008, we sold 2,131,274 shares of common stock at 195 pence sterling per share (approximately US\$3.91 per share) to certain eligible offshore investors. We received approximately 3,990,000 pounds sterling or approximately \$7,784,000 in proceeds before related expenses. On May 1, 2008, we sold 1,273,700 shares of common stock for \$3.91 per share to certain accredited investors, resulting in proceeds of approximately \$4,704,000 before related expenses.

Short term investments decreased by \$1,800,000 in 2009 compared to 2008. The company reduced its certificate of deposit with Union Bank to a balance of \$200,000, which is being used to secure a credit facility.

Accounts receivable increased by \$634,000, or 78%, from \$808,000 at December 31, 2008 to \$1,442,000 at December 31, 2009 due to increased shipments to FAW in the third and fourth quarters of 2009.

Inventory decreased by \$2,044,000 from \$7,649,000 as of December 31, 2008 to \$5,605,000 as of December 31, 2009, representing a 27% decrease in the balance. The decrease resulted from utilization of existing inventory balances to fulfill increases in customer orders during the second half of 2009.

Prepaid expenses and other current assets increased by \$48,000, or 22%, to \$263,000 as of December 31, 2009 from a balance of \$215,000 as of December 31, 2008. The increase is primarily attributable to deposits made to vendors for certain purchase orders.

Property and equipment decreased by \$466,000 or 25%, net of accumulated depreciation, to \$1,363,000 as of December 31, 2009 from the prior year balance of \$1,829,000. The decrease was primarily due to recording of depreciation expense during the year. We moved into our new manufacturing facility in the first quarter of 2008, which resulted in reduced capital expenditure requirements in 2009.

Intangible assets decreased by \$5,000 during 2009 from \$65,000 at December 31, 2008 to \$60,000 at December 31, 2009. Enova did not recognize any additional intellectual property assets, including patents and trademarks, during 2009. The change in the balance was a result of the amortization of the patents.

Accounts payable decreased by \$177,000, or 30%, from \$592,000 at December 31, 2008 to \$415,000 at December 31, 2009. The accounts payable balance was decreased as we reduced purchases in-line with our short-term sales forecast at the end of 2009.

Enova reported \$357,000 of deferred revenue at December 31, 2009 consisting of customer deposits for purchase orders, compared to a deferred revenue balance at December 31, 2008 of \$0. The Company anticipates recognition of the current year end balance into revenue in the first quarter of 2010.

Accrued payroll and related expenses decreased by \$18,000, or 6%, from \$295,000 at December 31, 2008 to \$277,000 at December 31, 2009. The change between periods is considered immaterial.

Other accrued liabilities decreased by \$572,000, or 31%, to \$1,287,000 at December 31, 2009 from \$1,859,000 at December 31, 2008. The decrease is primarily attributable to a decline in accruals for inventory receipts due to our

utilization of existing inventory to fulfill customer sales orders through 2009.

Accrued interest increased by \$82,000 from \$992,000 at December 31, 2008 to \$1,074,000 at December 31, 2009. The majority of the increase is associated with the interest accrued on the \$1.2 million note due the Credit Managers Association of California (CMAC).

ITEM 7A. *QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK*

Not applicable.

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ITEM 8. *FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA*

ENOVA SYSTEMS, INC.

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December 31, 2009 and 2008**

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders
of Enova Systems, Inc.:

We have audited the accompanying balance sheets of Enova Systems, Inc. as of December 31, 2009 and 2008, and the related statements of operations, stockholders' equity and cash flows for the years then ended. Enova Systems, Inc.'s management is responsible for these financial statements. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statement is free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits include consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statement, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Enova Systems, Inc. as of December 31, 2009 and 2008, and the results of its operations and its cash flows for the years then ended, in conformity with U.S. generally accepted accounting principles.

/s/ PMB Helin Donovan, LLP

Irvine, California
March 26, 2010

Table of Contents**ENOVA SYSTEMS, INC.****BALANCE SHEETS**

	December 31,	
	2009	2008
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 13,078,000	\$ 5,324,000
Short term investments	200,000	2,000,000
Accounts receivable, net	1,442,000	808,000
Inventories and supplies, net	5,605,000	7,649,000
Prepaid expenses and other current assets	263,000	215,000
Total current assets	20,588,000	15,996,000
Property and equipment, net	1,363,000	1,829,000
Investment in non-consolidated joint venture		1,352,000
Intangible assets, net	60,000	65,000
Total assets	\$ 22,011,000	\$ 19,242,000
LIABILITIES AND STOCKHOLDERS EQUITY		
Current liabilities:		
Accounts payable	\$ 415,000	\$ 592,000
Deferred revenues	357,000	
Accrued payroll and related expenses	277,000	295,000
Other accrued liabilities	1,287,000	1,859,000
Current portion of notes payable	68,000	98,000
Total current liabilities	2,404,000	2,844,000
Accrued interest payable	1,074,000	992,000
Notes payable, net of current portion	1,286,000	1,263,000
Total liabilities	4,764,000	5,099,000
Commitments and contingencies (Note 11)		
Stockholders' equity:		
Series A convertible preferred stock no par value, 30,000,000 shares authorized; 2,652,000 shares issued and outstanding; liquidating preference at \$0.60 per share as of December 31, 2009 and 2008	530,000	530,000
Series B convertible preferred stock no par value, 5,000,000 shares authorized; 546,000 shares issued and outstanding; liquidating preference at \$2 per share as of December 31, 2009 and 2008	1,094,000	1,094,000
Common stock no par value, 750,000,000 shares authorized; 31,404,000 and 20,817,000 shares issued and outstanding as of December 31, 2009 and 2008, respectively	143,995,000	134,233,000

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Additional paid-in capital	8,336,000	7,949,000
Accumulated deficit	(136,708,000)	(129,663,000)
Total stockholders' equity	17,247,000	14,143,000
Total liabilities and stockholders' equity	\$ 22,011,000	\$ 19,242,000

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

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ENOVA SYSTEMS, INC.
STATEMENTS OF OPERATIONS

	For the Years Ended December 31,	
	2009	2008
Revenues	\$ 5,622,000	\$ 6,443,000
Cost of revenues	5,016,000	8,224,000
Gross income(loss)	606,000	(1,781,000)
Operating expenses		
Research and development	1,228,000	2,505,000
Selling, general & administrative	6,223,000	8,692,000
Total operating expenses	7,451,000	11,197,000
Operating loss	(6,845,000)	(12,978,000)
Other income and (expense)		
Interest and other income (expense), net	(196,000)	202,000
Equity in losses of non-consolidated joint venture, net	(4,000)	(118,000)
Total other income, net	(200,000)	84,000
Net loss	\$ (7,045,000)	\$ (12,894,000)
Basic and diluted loss per share	\$ (0.33)	\$ (0.66)
Weighted average number of common shares outstanding	21,385,000	19,660,000

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

Table of Contents**ENOVA SYSTEMS, INC.****STATEMENTS OF STOCKHOLDERS EQUITY**

Convertible Preferred Stock				Common Stock		Additional	Accumulated	
Series A		Series B				Paid-in	Deficit	
Shares	Amount	Shares	Amount	Shares	Amount	Capital		
2,652,000	\$ 530,000	546,000	\$ 1,094,000	17,182,000	\$122,000,000	\$ 7,322,000	\$ (116,769,000)	\$
				3,430,000	12,008,000			
				153,000	174,000			
				52,000	51,000			
						627,000	(12,894,000)	
2,652,000	\$ 530,000	546,000	\$ 1,094,000	20,817,000	\$134,233,000	\$ 7,949,000	\$ (129,663,000)	\$
				23,000	5,000			
				10,348,000	9,420,000			
				158,000	165,000			
				58,000	172,000			

387,000

(7,045,000)

2,652,000 \$ 530,000 546,000 \$ 1,094,000 31,404,000 \$143,995,000 \$ 8,336,000 \$ (136,708,000) \$

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

Table of Contents**ENOVA SYSTEMS, INC.****STATEMENTS OF CASH FLOWS**

	For the Years Ended December 31,	
	2009	2008
Cash flows from operating activities		
Net loss	\$ (7,045,000)	\$ (12,894,000)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation and amortization	605,000	593,000
Loss on asset disposal	58,000	
Inventory reserve	714,000	803,000
Reserve for doubtful accounts		575,000
Equity in losses of non-consolidated joint venture	10,000	118,000
Gain from dissolution of non-consolidated joint venture	(6,000)	
Issuance of common stock for director services	165,000	174,000
Issuance of common stock for employee services	172,000	51,000
Stock option expense	387,000	627,000
(Increase) decrease in:		
Accounts receivable	(644,000)	2,873,000
Inventories and supplies	2,509,000	(4,887,000)
Prepaid expenses and other current assets	(48,000)	242,000
Increase (decrease) in:		
Accounts payable	(100,000)	(1,285,000)
Deferred revenues	357,000	(101,000)
Accrued payroll and related expenses	(18,000)	(385,000)
Other accrued liabilities	(607,000)	(204,000)
Accrued interest payable	82,000	118,000
Net cash used in operating activities	(3,409,000)	(13,582,000)
Cash flows from investing activities		
Purchases of short-term investments	(200,000)	(2,000,000)
Maturities of short-term investments	2,000,000	
Proceeds from the dissolution of non-consolidated joint venture	137,000	
Purchases of property and equipment	(135,000)	(1,524,000)
Net cash provided by (used in) investing activities	1,802,000	(3,524,000)
Cash flows from financing activities		
Payments on notes payable	(64,000)	(63,000)
Net proceeds from sales of common stock	9,420,000	12,008,000
Proceeds from the exercise of stock options	5,000	
Net cash provided by financing activities	9,361,000	11,945,000

Net increase (decrease) in cash and cash equivalents	7,754,000	(5,161,000)
Cash and cash equivalents, beginning of period	5,324,000	10,485,000
Cash and cash equivalents, end of period	\$ 13,078,000	\$ 5,324,000
Supplemental disclosure of cash flow information		
Interest paid	\$ 7,000	\$ 9,000
Assets acquired through financing arrangements	\$ 57,000	\$ 23,000
Net assets acquired in exchange for Enova's interest in joint venture:		
Inventory	\$ 1,179,000	\$
Reduction of related party payable, net of receivable	\$ 32,000	\$

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

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ENOVA SYSTEMS, INC.

NOTES TO FINANCIAL STATEMENTS

1. Description of Business

General

Enova Systems, Inc., (the Company), is a California corporation that develops, designs and produces drive systems and related components for electric, hybrid electric, and fuel cell systems for mobile and stationary applications. The Company retains development and manufacturing rights to many of the technologies created, whether such research and development is internally or externally funded. The Company sells drive systems and related components in the United States, Asia and Europe.

Liquidity

The Company has sustained recurring losses and negative cash flows from operations. Over the past year, the Company's growth has been funded through a combination of product sales, working capital reserves and the issuance of new equity capital. As of December 31, 2009, the Company had approximately \$13.3 million of cash, cash equivalents and short term investments. At December 31, 2009, the Company had net working capital of approximately \$18.2 million as compared to \$13.1 million at December 31, 2008, representing an increase of \$5.1 million. Management has implemented measures to conserve cash, including reductions in employee headcount and restrictions on inventory purchases, general and administrative costs, production overhead costs and capital expenditures. The Company will continue to conserve available cash by closely scrutinizing expenditures and extensively utilizing current inventory for sales during 2010. Therefore, the Company believes that it currently has sufficient cash and financial resources to meet its funding requirements over the next year. However, the Company has experienced and continues to experience recurring operating losses and negative cash flows from operations as well as an ongoing requirement for additional capital investment. The Company expects that it will need to raise additional capital to accomplish its business plan over the next several years. The Company is striving to expand its presence in the marketplace and achieve operating efficiencies.

2. Summary of Significant Accounting Policies

Basis of Presentation

These financial statements have been prepared in accordance with accounting principles generally accepted in the United States.

Revenue Recognition

The Company manufactures proprietary products and other products based on design specifications provided by its customers.

The Company recognizes revenue only when all of the following criteria have been met:

Persuasive evidence of an arrangement exists;

Delivery has occurred or services have been rendered;

The fee for the arrangement is fixed or determinable; and

Collectibility is reasonably assured.

Persuasive Evidence of an Arrangement The Company documents all terms of an arrangement in a written contract signed by the customer prior to recognizing revenue.

Delivery Has Occurred or Services Have Been Rendered The Company performs all services or delivers all products prior to recognizing revenue. Professional consulting and engineering services are considered to be performed when the services are complete. Equipment is considered delivered upon delivery to a customer's designated location. In certain instances, the customer elects to take title upon shipment.

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ENOVA SYSTEMS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

The Fee for the Arrangement is Fixed or Determinable Prior to recognizing revenue, a customer's fee is either fixed or determinable under the terms of the written contract. Fees professional consulting services, engineering services and equipment sales are fixed under the terms of the written contract. The customer's fee is negotiated at the outset of the arrangement and is not subject to refund or adjustment during the initial term of the arrangement.

Collectibility is Reasonably Assured The Company determines that collectibility is reasonably assured prior to recognizing revenue. Collectibility is assessed on a customer-by-customer basis based on criteria outlined by management. New customers are subject to a credit review process, which evaluates the customer's financial position and ultimately its ability to pay. The Company does not enter into arrangements unless collectibility is reasonably assured at the outset. Existing customers are subject to ongoing credit evaluations based on payment history and other factors. If it is determined during the arrangement that collectibility is not reasonably assured, revenue is recognized on a cash basis. Amounts received upfront for engineering or development fees under multiple-element arrangements are deferred and recognized over the period of committed services or performance, if such arrangements require the Company to provide on-going services or performance. All amounts received under collaborative research agreements or research and development contracts are nonrefundable, regardless of the success of the underlying research.

FASB ASC 605-25 Revenue Recognition-Multiple-Element Arrangements (ASC 605-25) addresses the accounting for arrangements that may involve the delivery or performance of multiple products, services and/or rights to use assets. Specifically, ASC 605-25 requires the recognition of revenue from milestone payments over the remaining minimum period of performance obligations. As required, the Company applies the principles of ASC 605-25 to multiple element agreements.

The Company recognizes engineering and construction contract revenues using the percentage-of-completion method, based primarily on contract costs incurred to date compared with total estimated contract costs. Customer-furnished materials, labor, and equipment, and in certain cases subcontractor materials, labor, and equipment, are included in revenues and cost of revenues when management believes that the company is responsible for the ultimate acceptability of the project. Contracts are segmented between types of services, such as engineering and construction, and accordingly, gross margin related to each activity is recognized as those separate services are rendered. Changes to total estimated contract costs or losses, if any, are recognized in the period in which they are determined. Claims against customers are recognized as revenue upon settlement. Revenues recognized in excess of amounts billed are classified as current assets under contract work-in-progress. Amounts billed to clients in excess of revenues recognized to date are classified as current liabilities under advance billings on contracts. Changes in project performance and conditions, estimated profitability, and final contract settlements may result in future revisions to engineering and development contract costs and revenue.

Deferred Revenues

The Company recognizes revenues as earned. Amounts billed in advance of the period in which service is rendered are recorded as a liability under Deferred Revenues. The Company has entered into several production and development contracts with customers. The Company has evaluated these contracts, ascertained the specific revenue generating activities of each contract, and established the units of accounting for each activity. Revenue on these units of accounting is not recognized until a) there is persuasive evidence of the existence of a contract, b) the service has been rendered and delivery has occurred, c) there is a fixed and determinable price, and d) collectability is reasonable assured.

Warranty Costs

The Company provides product warranties for specific product lines and accrues for estimated future warranty costs in the period in which revenue is recognized. Our products are generally warranted to be free of defects in materials and workmanship for a period of one year from the date of delivery, subject to standard limitations for

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ENOVA SYSTEMS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

equipment that has been altered by other than Enova Systems personnel and equipment which has been subject to negligent use. Warranty provisions are based on past experience of product returns, number of units repaired and our historical warranty incidence over the past twelve month period. The warranty liability is evaluated on an ongoing basis for adequacy and may be adjusted as additional information regarding expected warranty costs become known.

Cash and Cash Equivalents

Short-term, highly liquid investments with an original maturity of three months or less are considered cash equivalents.

Short-Term Investments

Short-term investments consist of certificates of deposit with maturities of less than a year.

Accounts Receivable and Allowance for Doubtful Accounts

Trade accounts receivable are recorded at the invoiced amount and do not bear interest. The allowance for doubtful accounts is the Company's best estimate of the amount of probable credit losses in the Company's existing accounts receivable; however, changes in circumstances relating to accounts receivable may result in a requirement for additional allowances in the future. Past due balances over 90 days and other higher risk amounts are reviewed individually for collectability. If the financial condition of the Company's customers were to deteriorate resulting in an impairment of their ability to make payment, additional allowances may be required. In addition, the Company maintains a general reserve for all invoices by applying a percentage based on the age category. Account balances are charged against the allowance after all collection efforts have been exhausted and the potential for recovery is considered remote. As of December 31, 2009 and 2008, the Company maintained a reserve of \$31,000 and \$640,000 for doubtful accounts receivable. Bad debt expense of \$0 and \$575,000 was recorded in 2009 and 2008, respectively.

Inventory

Inventories and supplies are comprised of materials used in the design and development of electric, hybrid electric, and fuel cell drive systems, and other power and ongoing management and control components for production and ongoing development contracts, finished goods and work-in-progress, and is stated at the lower of cost or market utilizing the first-in, first-out (FIFO) cost flow assumption. 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.

Inventory reserve

We maintain an allowance against inventory for the potential future obsolescence or excess inventory. 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 our 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 revenues in the period the revision is made.

Property and Equipment

Property and equipment are stated at cost and depreciated over the estimated useful lives of the related assets, which range from three to seven years using the straight-line method for financial statement purposes. The

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ENOVA SYSTEMS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

Company uses other depreciation methods (generally, accelerated depreciation methods) for tax purposes where appropriate. Amortization of leasehold improvements is computed using the straight-line method over the shorter of the remaining lease term or the estimated useful lives of the improvements.

Repairs and maintenance are expensed as incurred. Expenditures that increase the value or productive capacity of assets are capitalized. When property and equipment are retired, sold, or otherwise disposed of, the asset's cost and related accumulated depreciation are removed from the accounts and any gain or loss is included in operations.

Impairment of Long-Lived Assets

The Company assesses the impairment of its long-lived assets periodically in accordance with the provisions of FASB ASC 360-10-35-15, Impairment or Disposal of Long-Lived Assets .

The Company reviews the carrying value of property and equipment for impairment whenever events and circumstances indicate that the carrying value of an asset may not be recoverable from the estimated future cash flows expected to result from its use and eventual disposition. In cases where undiscounted expected future cash flows are less than the carrying value, an impairment loss is recognized equal to an amount by which the carrying value exceeds the fair value of assets. The factors considered by management in performing this assessment include current operating results, trends, and prospects, as well as the effects of obsolescence, demand, competition, and other economic factors. Long-lived assets that management commits to sell or abandon are reported at the lower of carrying amount or fair value less cost to sell.

Equity Method Investment

Investment in ITC, a joint venture (see Note 6) is accounted for by the equity method. Under the equity method of accounting, an investee company's accounts are not reflected within the Company's balance sheets or statements of operations; however, the Company's share of the earnings or losses of the investee company is reflected in the caption Equity in losses of non-consolidated joint venture in the statements of operations. The Company's carrying value in an equity method joint venture company is reflected in the caption Investment in non-consolidated joint venture in the Company's balance sheets.

Patents

Patents are measured based on their fair values. Patents are being amortized on a straight-line basis over a period of 20 years and are stated net of accumulated amortization.

Impairment of Intangible Assets

The Company evaluates the recoverability of identifiable intangible assets whenever events or changes in circumstances indicate that an intangible asset's carrying amount may not be recoverable. Such circumstances could include, but are not limited to: (1) a significant decrease in the market value of an asset, (2) a significant adverse change in the extent or manner in which an asset is used, or (3) an accumulation of costs significantly in excess of the amount originally expected for the asset. The Company measures the carrying amount of the asset against the estimated undiscounted future cash flows associated with it. Should the sum of the expected future net cash flows be

less than the carrying value of the asset being evaluated, an impairment loss would be recognized. The impairment loss would be calculated as the amount by which the carrying value of the asset exceeds its fair value. The fair value is measured based on quoted market prices, if available. If quoted market prices are not available, the estimate of fair value is based on various valuation techniques, including the discounted value of estimated future cash flows. The evaluation of asset impairment requires the Company to make assumptions about future cash flows over the life of the asset being evaluated. These assumptions require significant judgment and actual results may differ from assumed and estimated amounts. During the years ended December 31, 2009 and 2008, the Company did not have any impairment loss related to intangible assets (see Note 6).

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ENOVA SYSTEMS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

Fair Value of Financial Instruments

Effective January 1, 2008, the Company adopted FASB ASC 825-10-25, *Financial Value Option*, which allows an entity the irrevocable option to elect fair value for the initial and subsequent measurement of certain financial assets and liabilities under an instrument-by-instrument election. Subsequent measurements for the financial assets and liabilities an entity elects to fair value will be recognized in the results of operations. FASB ASC 825 also establishes additional disclosure requirements. The Company did not elect the fair value option under FASB ASC 825 for any of its financial assets or liabilities upon adoption.

The carrying amount of financial instruments, including cash and cash equivalents, certificates of deposit, accounts receivable, accounts payable and other accrued liabilities, approximate fair value due to the short maturity of these instruments. The recorded values of notes payable and long-term debt approximate their fair values, as interest approximates market rates.

Effective January 1, 2008, the Company adopted FASB ASC 820 *Fair Value Measurement*, which relates to the measurement and disclosure of financial assets and liabilities. This guidance established a framework for measuring fair value in GAAP and clarified the definition of fair value within that framework. The guidance defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The adoption of this guidance did not have an effect on the Company's financial condition or results of operations.

Stock-Based Compensation

The Company calculates stock-based compensation expense in accordance with FASB ASC 718, *Compensation-Stock Compensation* (FASB ASC 718). This pronouncement requires the measurement and recognition of compensation expense for all share-based payment awards made to employees and directors, including employee stock options to be based on estimated fair values.

The Company's determination of estimated fair value of share-based awards utilizes the Black-Scholes option-pricing model. The Black-Scholes model is affected by the Company's stock price as well as assumptions regarding certain highly complex and subjective variables. These variables include, but are not limited to; the Company's expected stock price volatility over the term of the awards as well as actual and projected employee stock option exercise behaviors.

Advertising Expense

The Company expenses all advertising costs as they are incurred. Advertising expense for the years ended December 31, 2009 and 2008 was \$0 and \$1,000, respectively.

Research and Development

In accordance with FASB ASC 730, *Research and Development*, research, development, and engineering costs are expensed in the period incurred. Costs of significantly altering existing technology are expensed as incurred.

Income Taxes

The Company utilizes FASB ASC 740, Income Taxes, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements or tax returns. Under this method, deferred income taxes are recognized for the tax consequences in future years of differences between the tax bases of assets and liabilities and their financial reporting amounts at each year-end based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to

Table of Contents**ENOVA SYSTEMS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

affect taxable income. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount expected to be realized.

Loss Per Share

The Company utilizes FASB ASC 260 Earnings per Share. Basic loss per share is computed by dividing loss available to common stockholders by the weighted-average number of common shares outstanding. Diluted loss per share is computed similar to basic loss per share except that the denominator is increased to include the number of additional common shares that would have been outstanding if the potential common shares had been issued and if the additional common shares were dilutive. Common equivalent shares are excluded from the computation if their effect is anti-dilutive. The Company's common share equivalents consist of stock options.

The potential shares, which are excluded from the determination of basic and diluted net loss per share as their effect is anti-dilutive, are as follows:

	Fiscal Years Ended December 31,	
	2009	2008
Options to purchase common stock	1,410,000	623,000
Series A and B preferred shares conversion	84,000	84,000
Potential equivalent shares excluded	1,494,000	707,000

Commitments and Contingencies

Certain conditions may exist as of the date the financial statements are issued, which may result in a loss to the Company but which will only be resolved when one or more future events occur or fail to occur. The Company's management and its legal counsel assess such contingent liabilities, and such assessment inherently involves an exercise of judgment. In assessing loss contingencies related to legal proceedings that are pending against the Company or unasserted claims that may result in such proceedings, the Company's legal counsel evaluates the perceived merits of any legal proceedings or unasserted claims as well as the perceived merits of the amount of relief sought or expected to be sought therein. If the assessment of a contingency indicates that it is probable that a material loss has been incurred and the amount of the liability can be estimated, then the estimated liability would be accrued in the Company's financial statements. If the assessment indicates that a potentially material loss contingency is not probable, but is reasonably possible, or is probable but cannot be estimated, then the nature of the contingent liability, together with an estimate of the range of possible loss if determinable and material, would be disclosed.

Loss contingencies considered remote are generally not disclosed unless they involve guarantees, in which case the nature of the guarantee would be disclosed.

Estimates

The preparation of financial statements in accordance with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Concentration of Credit Risk

Financial instruments which potentially subject the Company to concentrations of credit risk consist of cash and cash equivalents and accounts receivable. The Company places its cash and cash equivalents with high credit, quality financial institutions. The Company has not experienced any losses in such accounts and believes it is not

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ENOVA SYSTEMS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

exposed to any significant credit risk on cash and cash equivalents. With respect to accounts receivable, the Company routinely assesses the financial strength of its customers and, as a consequence, believes that the receivable credit risk exposure is limited.

Major Customers

During the year ended December 31, 2009, the Company conducted business with three customers whose gross sales comprised 56%, 15% and 13% of total revenues and accounted for 77%, 4% and 11% of gross accounts receivable, respectively. During the year ended December 31, 2008, the Company conducted business with three customers whose gross sales comprised 28%, 22% and 13% of total revenues and accounted for 3%, 34% and 4% of gross accounts receivable, respectively.

Recent Accounting Pronouncements

In April 2008, the FASB issued ASC 350 Intangible Goodwill and Others regarding the determination of the useful life of intangible assets. The guidance amends the factors that should be considered in developing renewal or extension assumptions used to determine the useful life of a recognized intangible asset. The guidance is effective for financial statements issued for fiscal years and interim periods beginning after December 15, 2008. Early adoption is prohibited. We adopted the guidance as of January 1, 2009, as required. The adoption of the guidance did not have a material impact on our financial statements.

In April 2009, the FASB amended ASC 820, effective for reporting periods ending after June 15, 2009, to provide guidance on (i) estimating the fair value of an asset or liability when the volume and level of activity for the asset or liability have significantly decreased and (ii) identifying whether a transaction is distressed or forced. The adoption of the amendment did not have a material impact on the Company's financial statements.

In April 2009, the FASB amended ASC 320, effective for reporting periods ending after June 15, 2009, to provide guidance on measuring other-than-temporary impairments for debt securities and improving the presentation and disclosure of other-than-temporary impairments on debt and equity securities in financial statements. The adoption of the amendment did not have a material impact on the Company's financial statements.

In May 2009, the FASB issued guidance now codified as ASC Topic 855, *Subsequent Events* ((ASC Topic 855) The guidance establishes general standards of accounting for and disclosure of events that occur after the balance sheet date but before financial statements are issued or are available to be issued. In addition, under the guidance, an entity is required to disclose the date through which subsequent events have been evaluated, as well as whether that date is the date the financial statements were issued or the date the financial statements were available to be issued. The guidance does not apply to subsequent events or transactions that are within the scope of other applicable GAAP that provide different guidance on the accounting treatment for subsequent events or transactions. The guidance is effective for interim or annual financial periods ending after June 15, 2009, and shall be applied prospectively. We adopted the guidance as of June 30, 2009, as required. The adoption of the guidance did not have a material impact on our financial statements. In February 2010, the FASB issued amended guidance on subsequent events. The amended guidance removes the requirement for United States Securities and Exchange Commission filers to disclose the date through which subsequent events have been evaluated. The amended guidance is effective upon issuance, except for the use of the issued date for conduit debt obligors. We adopted the amended guidance upon issuance, as required.

The adoption of the amended guidance did not have a material impact on our financial statements. See Note 18 to the accompanying financial statements for the related disclosure.

In June of 2009, the FASB issued guidance now codified as FASB ASC Topic 105, Generally Accepted Accounting Principles, as the single source of authoritative nongovernmental U.S. GAAP. FASB ASC Topic 105 does not change current U.S. GAAP, but is intended to simplify user access to all authoritative U.S. GAAP by providing all authoritative literature related to a particular topic in one place. All existing accounting standard documents will be superseded and all other accounting literature not included in the FASB Codification will be

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ENOVA SYSTEMS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

considered non-authoritative. These provisions of FASB ASC Topic 105 are effective for interim and annual periods ending after September 15, 2009 and, accordingly, are effective for the Company for the current fiscal reporting period. The adoption of this pronouncement did not have an impact on our financial condition or results of operations, but will impact our financial reporting process by eliminating all references to pre-codification standards. On its effective date, the Codification superseded all then-existing non-SEC accounting and reporting standards, and all other non-grandfathered non-SEC accounting literature not included in the Codification became non-authoritative. We adopted the ASC as of September 30, 2009, as required. The adoption of the ASC did not have an impact on our financial statements.

In August 2009, the FASB issued guidance on the measurement of liabilities at fair value. The guidance provides clarification in measuring the fair value of liabilities. The guidance is effective for the first reporting period (including interim periods) beginning after issuance. We adopted the guidance as of October 1, 2009, as required. The Company does not expect the adoption of this guidance to have a material impact on our financial statements.

In October 2009, the FASB issued ASU No. 2009-13, *Revenue Recognition* (ASC Topic 605) *Multiple-Deliverable Revenue Arrangements, a consensus of the FASB Emerging Issues Task Force*. This guidance modifies the fair value requirements of ASC subtopic 605-25 *Revenue Recognition-Multiple Element Arrangements* by allowing the use of the best estimate of selling price for determining the selling price of a deliverable. A vendor is now required to use its best estimate of the selling price when vendor specific objective evidence or third-party evidence of the selling price cannot be determined. In addition, the residual method of allocating arrangement consideration is no longer permitted. This guidance is effective for the Company in 2011. The Company does not expect the adoption of ASU No. 2009-13 to have a significant impact on its financial statements.

In January 2010, the FASB issued guidance to address implementation issues related to the changes in ownership provisions in ASC 810, *Consolidation*, (ASC 810). The guidance clarifies the scope of the decrease in ownership provisions in ASC 810 and expands the disclosures about the deconsolidation of a subsidiary or de-recognition of a group of assets within the scope of ASC 810. The guidance is effective beginning in the first interim or annual reporting period ending on or after December 15, 2009, and should be applied retrospectively to the first period that ASC 810 was adopted. The adoption of this guidance did not have a material impact on our financial statements.

In January 2010, the FASB issued guidance to improve disclosures about fair value measurements. The guidance provides amendments to require new disclosures regarding transfers in and out of Levels 1 and 2 of the fair value measurement hierarchy, and activity in Level 3, and to clarify existing disclosures regarding the level of disaggregation, inputs and valuation techniques. The guidance is effective for interim and annual reporting periods beginning after December 15, 2009, except for the new disclosures regarding purchases, sales, issuances, and settlements in the roll forward of activity in Level 3 fair value measurements, which are effective for fiscal years beginning after December 15, 2010, and for interim periods within those fiscal years. We do not expect that the adoption of the guidance will have a material impact on our financial statements.

3. Inventory

Inventories, consisting of materials, labor, and manufacturing overhead, are stated at the lower of cost (first-in, first-out) or market and consist of the following at December 31:

	2009	2008
Raw materials	\$ 6,341,000	\$ 7,114,000
Work-in-process	132,000	391,000
Finished Goods	111,000	1,047,000
Reserve for obsolescence	(979,000)	(903,000)
	\$ 5,605,000	\$ 7,649,000

Table of Contents**ENOVA SYSTEMS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

As of December, 31 2009, the reserve for obsolescence totaled \$979,000 and was increased during the year by approximately \$714,000. For the year ended December 31, 2008 the reserve for obsolescence was increased by approximately \$803,000. Inventory valuation adjustments and other inventory write-offs in 2009 and 2008 amounted to \$638,000 and \$0, respectively.

4. Property and Equipment

Property and equipment at December 31, 2009 and 2008 consisted of the following:

	2009	2008
Computers and software	\$ 556,000	\$ 598,000
Machinery and equipment	795,000	1,470,000
Furniture and office equipment	98,000	107,000
Demonstration vehicles and buses	507,000	346,000
Leasehold improvements	1,348,000	1,348,000
Construction in progress	8,000	
	3,312,000	3,869,000
Less accumulated depreciation and amortization	(1,949,000)	(2,040,000)
Total	\$ 1,363,000	\$ 1,829,000

Fixed assets totaling \$748,000 and \$549,000 were retired or disposed of in the years ended December 31, 2009 and 2008, respectively. Depreciation and amortization expense was \$600,000 and \$588,000 for the years ended December 31, 2009 and 2008, respectively, and within those total expenses, the amortization expense of leasehold improvements was \$269,000 and \$222,000 for the years ended December 31, 2009 and 2008, respectively.

5. Other Accrued Liabilities

Other accrued liabilities consisted of the following at:

	December 31, 2009	December 31, 2008
Accrued Inventory Received	\$ 334,000	\$ 743,000
Accrued Professional Services	395,000	571,000
Accrued Warranty	558,000	545,000
Total	\$ 1,287,000	\$ 1,859,000

Accrued warranty consisted of the following activities for the years ended December 31:

	2009	2008
Balance at beginning of year	\$ 545,000	\$ 734,000
Accruals for warranties issued during the period	383,000	377,000
Warranty claims	(370,000)	(566,000)
Balance at end of year	\$ 558,000	\$ 545,000

6. Investment in Non-Consolidated Joint Venture ITC

On April 6, 2009, Enova Systems Inc. and Hyundai Heavy Industries of Korea (HHI) agreed to dissolve their 60/40 joint venture, Hyundai-Enova Innovative Technology Center, Inc. (ITC), by mutual agreement based on their evaluation of the joint venture and its business relationship to each of Enova and HHI. ITC was originally

Table of Contents**ENOVA SYSTEMS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

established in 2003 as a technical center for specified products with Enova as the commercial manager, ITC as the engineering and development venture and HHI as the primary components supplier.

In connection with the dissolution of ITC, Enova, HHI and ITC entered into a Joint Venture Dissolution and Termination Agreement, effective as of April 6, 2009 (the Dissolution Agreement), pursuant to which, among other things, the parties terminated each of: (a) the Joint Venture Agreement between Enova and HHI, (b) the License and Technology Transfer Agreement between HHI and ITC (and all amendments and modifications thereto), (c) the License Transfer Agreement between Enova and ITC (and all amendments and modifications thereto), (d) the Manufacturing and Sales Agreement between Enova, HHI and ITC (and all amendments and modifications thereto), (e) the Manufacturing and Sales Agreement between HHI and ITC (and all amendments and modifications thereto) and (f) the License Agreement among U.S. Electricar, Inc., Hyundai Motor Company, and Hyundai Electronics Co., Ltd. (and all amendments and modifications thereto).

The Dissolution Agreement required Enova and ITC to enter into a Stock Purchase Agreement, dated as of April 6, 2009. Pursuant to the Stock Purchase Agreement, ITC re-purchased the 2,000,000 shares of common stock of ITC owned by Enova, which represented 40% of the issued shares of ITC, for a purchase price of \$1,334,097 with HHI becoming the sole shareholder of ITC immediately subsequent to this transaction. Enova received from ITC a cash payment of \$137,218 and, as was agreed under the Dissolution Agreement, the amount of \$1,196,879 was paid to HHI to settle open purchase orders that Enova had placed with HHI for electrical component inventory which are expected to become part of salable systems; and to settle other payables and receivables between Enova and HHI and ITC. As of December 31, 2009, Enova received approximately \$1,179,000 in inventory from HHI as full settlement for ITC.

The summary of the ITC dissolution is as follows:

	Amount
Cash received at settlement	\$ 137,000
Inventory received in settlement of purchase orders with HHI for Enova's share in joint venture	1,179,000
Related party receivables and payables settled for Enova's share in joint venture	32,000
Settlement amount	1,348,000
Less: Joint venture investment balance as of April 6, 2009	(1,342,000)
Net gain resulting from dissolution of the joint venture	\$ 6,000

The summary of the ITC dissolution is as follows:

HHI continues to be a key strategic supplier of components for Enova, including electric drive motors and control electronic units that are manufactured using Enova specifications.

7. Intangible Assets

Intangible assets consist of legal fees directly associated with patent licensing. The Company has been granted three patents. These patents have been capitalized and are being amortized on a straight-line basis over a period of 20 years.

Intangible assets consisted of the following as of December 31:

	2009	2008
Patents	\$ 93,000	\$ 93,000
Less accumulated amortization	(33,000)	(28,000)
Total	\$ 60,000	\$ 65,000

Table of Contents**ENOVA SYSTEMS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

Amortization expense charged to operations was \$5,000 for each of the years ended December 31, 2009 and 2008.

8. Notes Payable

Notes payable at December 31, consisted of the following:

	2009	2008
Secured note payable to Credit Managers Association of California, bearing interest at prime plus 3% (6.25% as of December 31, 2009), and is adjusted annually in April through maturity. Principal and unpaid interest due in April 2016. A sinking fund escrow may be funded with 10% of future equity financing, as defined in the Agreement	\$ 1,238,000	\$ 1,238,000
Secured note payable to a financial institution in the original amount of \$95,000, bearing interest at 6.21%, payable in 36 equal monthly installments of principal and interest through October 1, 2009		27,000
Secured note payable to a financial institution in the original amount of \$35,000, bearing interest at 10.45%, payable in 30 equal monthly installments of principal and interest through November 1, 2009		14,000
Secured note payable to a financial institution in the original amount of \$23,000, bearing interest at 11.70%, payable in 36 equal monthly installments of principal and interest through October 1, 2010	8,000	15,000
Secured note payable to a Coca Cola Enterprises in the original amount of \$40,000, bearing interest at 10% per annum. Principal and unpaid interest due on demand	40,000	40,000
Secured note payable to a financial institution in the original amount of \$39,000, bearing interest at 4.99% per annum, payable in 48 equal monthly installments of principal and interest through September 1, 2011	18,000	27,000
Secured note payable to a financial institution in the original amount of \$38,000, bearing interest at 8.25% per annum, payable in 60 equal monthly installments of principal and interest through February 19, 2014	32,000	
Secured note payable to a financial institution in the original amount of \$19,000, bearing interest at 10.50% per annum, payable in 60 equal monthly installments of principal and interest through August 25, 2014	18,000	
	1,354,000	1,361,000
Less current portion	(68,000)	(98,000)
Long-term portion	\$ 1,286,000	\$ 1,263,000

As of December 31, 2009 and 2008, the balance of long term interest payable with respect to the Credit Managers Association of California note amounted to \$1,054,000 and \$976,000, respectively. Interest expense on notes payable amounted to approximately \$91,000 and \$133,000 during the years ended December 31, 2009 and 2008, respectively.

Table of Contents**ENOVA SYSTEMS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

Future minimum principal payments of notes payable at December 31, 2009 consisted of the following:

Year Ending December 31	Principal Amounts
2010	\$ 68,000
2011	19,000
2012	12,000
2013	13,000
2014	4,000
Thereafter	1,238,000
Total	\$ 1,354,000

9. Revolving Credit Agreement

In October 2007, the Company entered into a secured revolving credit facility with a financial institution (the Credit Agreement) for \$2,000,000, which was secured by a \$2,000,000 certificate of deposit. The facility expired on June 30, 2009.

In June 2009, the Company renewed the Credit Agreement at a reduced principal amount of \$200,000 for a one-year term maturing on June 30, 2010. The agreement is secured by a \$200,000 certificate of deposit. The interest rate on a drawdown from the facility is the certificate of deposit rate plus 1.25% with interest payable monthly and the principal due at maturity. The financial institution also renewed the \$200,000 irrevocable letter of credit for the full amount of the credit facility in favor of Sunshine Distribution LP (Landlord), with respect to the lease of the Company's corporate headquarters at 1560 West 190th Street, Torrance, California.

10. Deferred Revenues

The Company had deferred \$357,000 and \$0 in revenue related to production and development contracts at December 31, 2009 and 2008, respectively. We anticipate that this revenue will be recognized in the first quarter of 2010.

11. Commitments and Contingencies***Leases***

In October 2007, Enova entered into a lease agreement with Sunshine Distribution LP (Landlord), with respect to the lease of an approximately 43,000 square foot facility located at 1560 West 190th Street, Torrance, California (the Lease). The lease term commenced on November 1, 2007, and expires January 1, 2013. The total base monthly rent is approximately \$37,000, and will be increased effective May 1, 2011 based on the increase in the consumer price index. Under the Lease, Enova will pay the Landlord certain commercially reasonable and customary common area

maintenance costs of approximately \$5,000 per month, increasing ratably as these costs are increased to the Landlord. The Lease is secured by an irrevocable standby letter of credit in the amount of \$200,000 and naming the Landlord as the beneficiary. Enova also has an office in Hawaii which is rented on a month-to-month basis at \$3,400 per month, and a sales office in Michigan that it rents on a month-to-month basis at \$500 per month. Rent expense was \$561,000 and \$616,000 for the years ended December 31, 2009, and 2008, respectively.

Table of Contents**ENOVA SYSTEMS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

Future minimum lease payments under non-cancelable operating lease obligations at December 31, 2009 were as follows:

Year Ending December 31	Operating Leases
2010	\$ 439,000
2011	439,000
2012	439,000
2013	
2014	
Total	\$ 1,317,000

12. Stockholders Equity*Common Stock*

On October 29, 2009, Enova entered into a Purchase Agreement (the "Purchase Agreement") with certain accredited investors (as such term is defined under Regulation D promulgated by the Securities and Exchange Commission (the "SEC")) pursuant to which the Investors agreed to purchase 9,024,960 shares of Common Stock (the "Investor Shares") and the Company received \$9,024,960 in gross proceeds from the offering.

On October 29, 2009, the Company entered into a Placing Agreement (the "Placing Agreement") to which Investec Bank (UK) Limited (the "Investec") acted as Enova's agent to place 1,323,200 shares of the Common Stock (the "Placing Shares") at 62.5 Pence (the "Placing Price"), or approximately the equivalent of \$1.00 (U.S. Dollars) per share as of such date based on the exchange rate on October 29, 2009 as reported by Fidessa.

On December 15, 2009, Enova Systems, Inc. completed the sale of the above 10,348,160 shares of the Company's common stock, no par value (the "Common Stock"), at \$1.00 (U.S.) per share for gross proceeds of approximately \$10,348,160 (based on current exchange rates as described above) pursuant in part to a Purchase Agreement and in part to a Placing Agreement as more particularly described above. The transactions contemplated by the Purchase Agreement and the Placing Agreement were approved by shareholders at the company's annual meeting held on December 8, 2009. Costs related to the December 2009 equity raise were approximately \$928,000.

During the years ended December 31, 2009 and 2008, the Company issued 158,000 and 153,000 shares of common stock, respectively, to directors as compensation. The common stock issued to directors in 2009 and 2008 was valued at \$165,000 and \$174,000, respectively, based upon the trading value of the common stock on the date of issuance.

During the years ended December 31, 2009 and 2008, the Company issued 58,000 and 52,000 shares of common stock, respectively, to employees as compensation. The common stock issued to employees in 2009 and 2008 was valued at \$172,000 and \$51,000, respectively, based upon the trading value of the common stock on the date of

issuance.

Series A Preferred Stock

Series A preferred stock is currently unregistered and convertible into common stock on a one-to-one basis, including adjustments to reflect the Company's 1-45 reverse stock split on July 20, 2005, at the election of the holder or automatically upon the occurrence of certain events including: sale of stock in an underwritten public offering; registration of the underlying conversion stock; or the merger, consolidation, or sale of more than 50% of the Company. Holders of Series A preferred stock have the same voting rights as common stockholders. The stock has a liquidation preference of \$0.60 per share plus any accrued and unpaid dividends in the event of voluntary or involuntary liquidation of the Company. Dividends are non-cumulative and payable at the annual rate of \$0.036 per

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ENOVA SYSTEMS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

share if, when, and as declared by, the Board of Directors. No dividends have been declared on the Series A preferred stock.

Series B Preferred Stock

Series B preferred stock is currently unregistered and each share is convertible into shares of common stock on a two-for-one basis, including adjustments to reflect the Company's 1-45 reverse stock split on July 20, 2005, at the election of the holder or automatically upon the occurrence of certain events including: sale of stock in an underwritten public offering, if the offering results in net proceeds of \$10,000,000, and the per share price of common stock is at least \$2.00; and the merger, consolidation, or sale of common stock or sale of substantially all of the Company's assets in which gross proceeds received are at least \$10,000,000. The Series B preferred stock has certain liquidation and dividend rights prior and in preference to the rights of the common stock and Series A preferred stock. The stock has a liquidation preference of \$2.00 per share together with an amount equal to, generally, \$0.14 per share compounded annually at 7% per year from the filing date, less any dividends paid. Dividends on the Series B preferred stock are non-cumulative and payable at the annual rate of \$0.14 per share if, when, and as declared by, the Board of Directors. No dividends have been declared on the Series B preferred stock.

13. Stock Options

Stock Option Program Description

For the year ended December 31, 2009 the Company had two equity compensation plans, the 1996 Stock Option Plan (the 1996 Plan) and the 2006 equity compensation plan (the 2006 Plan). The 1996 Plan has expired for the purposes of issuing new grants. However, the 1996 Plan will continue to govern awards previously granted under that plan. The 2006 Plan has been approved by the Company's Shareholders. Equity compensation grants are designed to reward employees and executives for their long term contributions to the Company and to provide incentives for them to remain with the Company. The number and frequency of equity compensation grants are based on competitive practices, operating results of the company, and government regulations.

The maximum number of shares issuable over the term of the 1996 Plan was limited to 65 million shares. Options granted under the 1996 Plan typically have an exercise price of 100% of the fair market value of the underlying stock on the grant date and expire no later than ten years from the grant date. The 2006 Plan has a total of 3,000,000 shares reserved for issuance, of which 903,000 were granted in 2009.

The Company attributes the value of share-based compensation to expense using the straight-line method over the vesting period for the options granted. Stock-based compensation expense related to stock options was \$387,000 and \$627,000 for the years ended December 31, 2009 and 2008, respectively. As of December 31, 2009, the total compensation cost related to non-vested awards not yet recognized is \$924,000. The remaining period over which the future compensation cost is expected to be recognized is 22 months. The aggregate intrinsic value of total awards outstanding is \$822,000.

Stock-based compensation expense recognized in the Statement of Operations for the year ended December 31, 2009 has been based on awards ultimately expected to vest and it has been reduced for estimated forfeitures. FASB ASC 718 requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual

forfeitures differ from those estimates. For the year ended December 31, 2009, the Company applied estimated average forfeiture rates of approximately 3% for non-officer grants, based on historical forfeiture experience. The expected life of options granted in 2009 is 3 years.

FASB ASC 718 requires the cash flows resulting from the tax benefits resulting from tax deductions in excess of the compensation cost recognized for those options to be classified as financing cash flows. Due to the Company's loss position, there were no such tax benefits for the years ended December 31, 2009 and 2008.

Table of Contents**ENOVA SYSTEMS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

The fair value of stock-based awards to officers and employees is calculated using the Black-Scholes option pricing model. The Black-Scholes model requires subjective assumptions, including future stock price volatility and expected time to exercise, which greatly affect the calculated values. The expected term of options granted is derived from historical data on employee exercises and post-vesting employment termination behavior. The risk-free rate selected to value any particular grant is based on the bond equivalent yields that corresponds to the pricing term of the grant effective as of the date of the grant. The expected volatility is based on the historical volatility of the Company's stock price. These factors could change in the future, affecting the determination of stock-based compensation expense in future periods.

The following is a summary of changes to outstanding stock options during the fiscal year ended December 31, 2009:

	Number of Share Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding at December 31, 2007	329,000	\$ 4.23	5.85	\$
Granted	420,000	\$ 3.82	9.74	\$
Exercised				\$
Forfeited or Cancelled	(126,000)	\$ 3.91		\$
Outstanding at December 31, 2008	623,000	\$ 4.02	7.09	\$
Granted	903,000	\$ 0.89	8.60	
Exercised	(23,000)	\$ 0.23		
Forfeited or Cancelled	(93,000)	\$ 3.67		\$
Outstanding at December 31, 2009	1,410,000	\$ 2.10	7.65	\$ 822,000
Exercisable at December 31, 2009	531,000	\$ 3.40	6.28	\$ 134,000

At December 31, 2009, there were 1,663,000 shares available for grant under the 2006 plan. The weighted-average remaining contractual life of the options outstanding at December 31, 2009 was 7.65 years. The exercise prices of the options outstanding at December 31, 2009 ranged from \$0.21 to \$4.95. The weighted-average remaining contractual life of the options exercisable at December 31, 2008 was 6.28 years. Options exercisable were 531,000 and 387,000 at December 31, 2009 and 2008, respectively. The weighted-average grant date fair value of the options granted during the years ended December 31, 2009 and 2008 was \$0.69 and \$2.88, respectively.

Unvested share activity for the year ended December 31, 2009 is summarized below:

	Unvested Number of Options	Weighted-Average Grant Date Fair Value
Unvested balance at December 31, 2008	236,000	\$ 2.88
Granted	903,000	\$ 0.69
Vested	(223,000)	\$ 1.68
Forfeited	(37,000)	\$ 2.28
Unvested balance at December 31, 2009	879,000	\$ 0.98

Table of Contents**ENOVA SYSTEMS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

The company settles employee stock option exercises with newly issued common shares. The table below presents information related to stock option activity for the fiscal years ended December 31, 2009 and 2008:

	Fiscal Year Ended December 31,	
	2009	2008
Total intrinsic value of stock options exercised	\$ 13,000	\$
Cash received from stock option exercises	\$ 5,000	\$
Gross income tax benefit from the exercise of stock options	\$	\$

Valuation and Expense Information

The fair values of all stock options granted during the fiscal years ended December 31, 2009 and 2008 were estimated on the date of grant using the Black-Scholes option-pricing model with the following range of assumptions:

	Fiscal Year Ended December 31,	
	2009	2008
Expected life (in years)	2-3	4
Average risk-free interest rate	2%	3%
Expected volatility	120 - 194%	111 - 113%
Expected dividend yield	0%	0%
Forfeiture rate	3%	3%

The estimated fair value of grants of stock options to nonemployees of the Company is charged to expense, if applicable, in the financial statements. These options vest in the same manner as the employee options granted under each of the option plans as described above.

14. Income Taxes

Significant components of the Company's deferred tax assets and liabilities for federal and state income taxes as of December 31, 2009 and 2008 consisted of the following:

	2009	2008
Deferred tax assets		
Net operating loss carry-forwards	\$ 25,440,000	\$ 34,163,000
Stock based compensation	248,000	357,000
Other, net	(421,000)	(6,000)

	25,267,000	34,514,000
Less valuation allowance	(25,267,000)	(34,514,000)
Net deferred tax assets	\$	\$

The Tax Reform Act of 1986 limits the use of net operating loss carryforwards in certain situations where changed occur in the stock ownership of a company. In the event the Company has had a change in ownership, utilization of the carryforwards could be restricted.

Deferred taxes arise from temporary differences in the recognition of certain expenses for tax and financial reporting purposes. The deferred tax assets have been offset by a valuation allowance since management does not believe the recoverability of these in future years is more likely than not to occur. The valuation allowance decreased by \$9,247,000 and \$3,156,000 during the years ended December 31, 2009 and 2008, respectively. As of December 31 2009, the Company had net operating loss carry forwards for federal and state income tax purposes of

Table of Contents**ENOVA SYSTEMS, INC.****NOTES TO FINANCIAL STATEMENTS (Continued)**

approximately \$64,133,000 and \$40,185,000, respectively. Net operating loss carry forwards of \$34,460,000 expired in 2009 and remaining operating loss carry forwards will expire in 2010 to 2024.

The provision for income taxes differs from the amount computed by applying the U.S. federal statutory tax rate (34% in 2009 and 2008) to income taxes as follows:

	December 31, 2009	December 31, 2008
Tax benefit computed at 34%	\$ (2,395,000)	\$ (4,384,000)
Change in valuation allowance	(9,247,000)	(3,156,000)
State tax (net of Federal benefit)	(389,000)	(748,000)
Change in carryovers and tax attributes	12,031,000	8,288,000
Net tax benefit	\$	\$

15. Related Party Transactions

During 2009 and 2008, the Company purchased approximately \$1,179,000 and \$1,478,000, respectively, in components, materials and services from HHI. Sales to HHI amounted to approximately \$111,000 and \$88,000 for the years ended December 31, 2009 and 2008, respectively. The Company had an outstanding payable balance owed to HHI of approximately \$0 at December 31, 2009 and \$30,000, net of a receivable of approximately \$10,000 at December 31, 2008.

A relative of one of the Company's directors is a majority owner of a website consulting firm which provided services (branding) to the Company. The Company paid consulting fees and expenses to this firm in the amount of approximately \$0 in 2009 and \$111,000 in 2008.

16. Employee Benefit Plan

The Company has a 401(k) profit sharing plan covering substantially all employees. Eligible employees may elect to contribute a percentage of their annual compensation, as defined, to the plan. The Company may also elect to make discretionary contributions. For the years ended December 31, 2009 and 2008, the Company did not make any contributions to the plan.

17. Geographic Area Data

The Company operates as a single reportable segment and attributes revenues to countries based upon the location of the entity originating the sale. Revenues by geographic area are as follows:

2009 **2008**

United States	\$ 1,660,000	\$ 2,726,000
China	3,142,000	249,000
United Kingdom	534,000	2,033,000
Italy	161,000	274,000
Korea	111,000	256,000
Canada	14,000	
Japan		259,000
Norway		646,000
Total	\$ 5,622,000	\$ 6,443,000

18. Subsequent Events

The Company has evaluated subsequent events through the filing date of this Form 10-K and has determined that there were no additional subsequent events to recognize or disclose in these financial statements.

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ITEM 9. *CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURES*

None.

ITEM 9A(T). *CONTROLS AND PROCEDURES*

Evaluation of Disclosure Controls and Procedures

As required by SEC Rule 13a-15(b) under the Securities Exchange Act of 1934, as amended (the Exchange Act), the Company carried out an evaluation, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Exchange Act) as of December 31, 2009. Based on this evaluation, the Company's Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures were effective as of December 31, 2009.

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) promulgated under the Exchange Act. We maintain internal control over financial reporting designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Under the supervision and with the participation of management, including the Company's Chief Executive Officer and Chief Financial Officer, the Company conducted an evaluation of the effectiveness of its internal control over financial reporting based on the framework in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. This evaluation included an assessment of the design of the Company's internal control over financial reporting and testing of the operational effectiveness of its internal control over financial reporting. Based on this evaluation, management has concluded that the Company's internal control over financial reporting was effective as of December 31, 2009.

This annual report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Our management's report was not subject to attestation by our registered public accounting firm pursuant to temporary rules of the Securities and Exchange Commission that permit us to provide only management's report in this annual report.

Changes in Internal Control over Financial Reporting

There have not been any other changes in our internal control over financial reporting as of the year ended December 31, 2009 that has materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. *OTHER INFORMATION*

Shareholders Meeting convened on December 8, 2009

The annual meeting of the Shareholders of Enova Systems, Inc. was convened on Tuesday, December 8, 2009 at the Company's headquarters. A total of 14,748,097 shares were voted out of a total 21,095,776 shares

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outstanding, inclusive of Common Shares and Series A and Series B Preferred Shares. The following three proposals were presented to the shareholders:

Proposal 1 was for the election of six Directors to hold office until the next Annual Meeting of Shareholders and until their respective successors are elected and qualified or until each Director's earlier resignation or removal. The six Directors up for re-election were Messrs. Michael Staran, Edwin Riddell, John Wallace, John Micek, Richard Davies and Roy Roberts. The shares voted in person or by proxy were voted in favor of the six nominees as detailed in the following table:

Directors	For	Withheld
Richard Davies	14,654,886	93,211
John Micek	14,654,996	93,101
Edwin Riddell	14,596,111	151,986
Roy Roberts	14,598,137	149,960
Michael Staran	14,589,195	158,902
John Wallace	14,586,418	149,150

Proposal 2 was for the ratification of the Board's appointment of PMB Helin Donovan, LLP as the Corporation's independent auditors for the fiscal year ending December 31, 2009. Of the shares voted in person or by proxy on the proposal, 14,684,581 shares voted in favor, 37,581 shares voted against and 25,665 shares voted to abstain.

Proposal 3 was for the authorization to issue up to 10,348,160 shares of the Company's common stock in accordance with the Purchase Agreement and Placing Agreement, each dated October 29, 2009. Of the shares voted in person or by proxy on the proposal, 8,439,091 shares voted in favor, 171,671 shares voted against, 19,124 shares voted to abstain and there were 3,832,711 broker non-votes.

PART III**ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE**

The following table sets forth certain information with respect to the current Directors and executive officers of Enova Systems Inc.:

Name	Age	Position
Richard Davies(3)(5)	41	Director
Jarett Fenton	33	Chief Financial Officer
John Micek(1)	57	Director
John Mullins	45	Chief Operating Officer
Edwin O. Riddell	68	Director
Roy Roberts(2)(4)(5)	71	Director
Michael Staran	49	Chief Executive Officer and Director
John Wallace(2)(4)(5)	61	Director

(1) Audit Committee Chairman

- (2) Audit Committee Member
- (3) Compensation Committee Chairman
- (4) Compensation Committee Member
- (5) Nomination and Governance Committee

Richard Davies. Mr. Davies, age 41, has served on the Board of Directors since 2008. Since 2007, he has served as Managing Director of investments for Jagen Pty Ltd. Prior to that appointment, he managed the listed equity investments of Jagen Ptd Ltd. since 2003. Between 2001 and 2003, Mr. Davies co-founded Kicap

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Management, a global long short equity hedge fund. Between 1998 and 2001, Mr. Davies worked for Tiger Management as an analyst of telecom and media industries. In addition to his experience as a portfolio manager and analyst, Mr. Davies between 1992 and 1996 practiced as an attorney with Baker & McKenzie in Hong Kong and Melbourne, Australia and then Freehill, Hollingdale & Page in Melbourne and Sydney, Australia. Mr. Davies graduated in 1992 from Monash University in 1992 with a Bachelor of Law (Honors) and Bachelor of Economics. He also earned an MBA (Honors) from Columbia Business School.

Jarett Fenton, Chief Financial Officer. Mr. Fenton, age 33, has served as our Chief Financial Officer since February 5, 2007. He previously served from March 2003 through February 2007 the Chief Executive of the Clarity Group, a company he founded to provide SEC reporting and corporate compliance consultancy. From September 1998 to March of 2003, Mr. Fenton worked as a Senior Associate in the Middle Market practice of PricewaterhouseCoopers in the Orange County, CA office where he facilitated audit engagements, worked on SEC reporting issues, controls assessments, client reporting, financial guidance interpretation and staff development. Mr. Fenton has a B.A. in Business Economics with an emphasis in Accounting from the University of California at Santa Barbara and is a Certified Public Accountant in the State of California.

John J. Micek. Mr. Micek, age 57, was re-appointed to the Board of Directors in 2007. He previously served on the Board between April 1999 and July 2005. Since 2000, Mr. Micek has been Managing Director of Silicon Prairie Partners, LP, a Palo Alto, California-based family-owned venture fund. He also is admitted to practice law in California and his prior practice focused financial services. Mr. Micek currently actively serves on the Board of Directors of Armanino Foods of Distinction, UTEK Corporation and JAL/Universal Assurors. During the past five years, he previously served on the Board of Directors of Benda Pharmaceutical, Wherify Wireless, and ExchangeBlvd.com. Micek is a cum laude graduate of Santa Clara University, and the University of San Francisco School of Law, where he was Senior Articles Editor of the Law Review.

John Mullins. Mr. Mullins, age 45, brings over 19 years operations related management experience, 11 based outside the United States. Past roles include COO/VP Operations for American Racing; SBU global General Manager of Ingersoll-Rand's industrial tool and pump business, based in Shanghai China; General Manager of TRW Automotive's North American aftermarket business; Operations general manager- Europe for Lucas Aftermarket, based in Solihull England, and a variety of positions with Kelsey-Hayes company in engineering and program management, based in Tokyo Japan, and Detroit MI. John holds a master of international business degree from the University of South Carolina and an electrical engineering degree from Oklahoma State University.

Edwin O. Riddell. Mr. Riddell, age 68, has served on the Board of Directors since 1995. He also served as our President and Chief Executive Officer from August 20, 2004 until his retirement effective August 28, 2007. Between 1999 and 2004, Mr. Riddell was President of CR Transportation Services, a consultant to the electric and hybrid vehicle industry. From 1992 to 1999, Mr. Riddell was Product Line Manager of the Transportation Business Unit at the Electric Power Research Institute, and from 1985 until 1992, he served with the Transportation Group, Inc. as Vice President of Engineering, working on electrically driven public transportation systems. From 1979 to 1985, Mr. Riddell was Vice President, General Manager and COO of Lift-U, Inc., a manufacturer of handicapped wheelchair lifts for the transit industry. He has also worked with Ford, Chrysler, and General Motors in the area of auto design, and as a member of senior management for a number of public transit vehicle manufacturers. Mr. Riddell served as a member of the American Public Transportation Association's (APTA) Member Board of Governors for over 15 years, and served on APTA's Board of Directors. Mr. Riddell was also Managing Partner of the U.S. Advanced Battery Consortium. He also serves on the Electric Drive Association Board of Directors.

Roy S. Roberts. Mr. Roberts, age 71, was appointed to the Board of Directors in 2008. He has served as Managing Director of Reliant Equity Investors, a venture capital firm, since September 2000. Mr. Roberts retired from General Motors in 2000. At the time of his retirement, he was Group Vice President for North American Vehicle Sales,

Service and Marketing of General Motors Corporation, having been elected to that position in October 1998. Prior to that time, he was Vice President and General Manager in charge of Field Sales, Service and Parts for the Vehicle Sales, Service and Marketing Group from August 1998 to October 1998, General Manager of the Pontiac-GMC Division between 1996 and 1998, and General Manager of the GMC Truck Division between 1992 and 1996. Mr. Roberts first joined General Motors Corporation in 1977 and became a corporate officer of General Motors Corporation in 1987. He was named 1996 Executive of the Year by Black Enterprise magazine and

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1997 Executive of the Year by African Americans on Wheels magazine. Mr. Roberts earned a bachelor's degree from Western Michigan University and completed the Executive Development Program at Harvard University. He also received honorary doctorate degrees from Florida A&M University and Grand Valley State College. He previously served as on the Board of Directors for Burlington Northern Santa Fe Corporation, the Morehouse School of Medicine, the United Negro College Fund, the National Urban League, and as president and on the National Board of Directors for the Boy Scouts of America. He currently serves as a director for Abbott Laboratories and as Trustee Emeritus at Western Michigan University.

Michael Staran. Mr. Staran, age 49, was appointed to the Board of Directors in 2007. He currently serves as our President and Chief Executive Officer. Mr. Staran became our Chief Executive Officer effective August 28, 2007. He previously had served as President and Chief Operating Officer since June 26, 2007 and Executive Vice President since November 17, 2006. He also acted as a consultant for Enova Systems from November 2004 through February 2005 when he was hired by us as Director of Sales and Marketing. Mr. Staran has nearly 30 years of experience in business development, product management, sales and marketing, and engineering. Prior to joining us in 2006, he had served since 1998 as President of Effective Solutions People LLC providing specialized consulting to the OEM supplier segment. His affiliations and work history range from companies such as Ford, General Motors and DaimlerChrysler to suppliers such as Johnson Controls Inc. and Decoma International (a division of Magna International) where he was vice president of sales and marketing for 13 years. Mr. Staran holds a Bachelor of Science degree in Mechanical Engineering with a minor in Mathematics from Lawrence Institute of Technology in Southfield Michigan. Mr. Staran has developed three patented mechanical designs within the automotive components sector.

John R. Wallace. Mr. Wallace, age 61, was elected to the Board of Directors in 2002 and was elected Chairman of the Board of Directors on August 22, 2008. Mr. Wallace has been a member of the Board of Directors for Xantrex Technology, Inc. based in Burnaby, B.C., Canada since 2003 and also held the position of CEO at Xantrex from November 2005 until September 2008. From 2002 to 2005, Mr. Wallace worked independently as a consultant in the alternative energy sector. Prior to working as a consultant, Mr. Wallace served in various capacities at Ford Motor Company from 1988 until his retirement in 2002. He served as Director of Ford's Electronic Systems Research Laboratory, Research Staff, from 1988 through 1990. He then worked in Ford's alternative fuel vehicle programs, serving first as Director of Technology Development Programs then as Director of Electric Vehicle Programs, Director of Alternative Fuel Vehicles, and finally Director of Environmental Vehicles. Prior to joining Ford Research Staff, he was president of Ford Microelectronics, Inc., in Colorado Springs. Mr. Wallace has been past Chairman of the Electric Vehicle Association of the Americas, past Executive Director and Chairman of the Board of Directors of TH!NK Nordic, past chairman of the United States Advanced Battery Consortium, and past Chairman of the California Fuel Cell Partnership. His other experience includes work as program manager with Intel Corporation. He also served as Director, Western Development Center, for Perkin-Elmer Corporation and as President of Precision Microdesign, Inc.

There is no family relationship between any director, nominee, or executive officer of Enova Systems

Board of Directors and its Committee

The Board of Directors currently consists of six directors. The minimum and maximum number of Directors under our Bylaws is six and nine members. The Board has fixed its current size at six members, which was effective from the Annual Meeting for fiscal year 2008 held on December 8, 2009. The Board of Directors has determined that at least 50% of its current members are independent within the meaning of NYSE Amex rules as applicable to a smaller reporting company. Specifically, Messrs. Davies, Micek, Roberts and Wallace are independent.

The Board met five times during 2009. The Board schedules regular executive sessions at each of its meetings in which non-employee directors meet without management participation. In addition, at least once each year the

independent directors meet without non-independent director participation. Each of the directors attended at least 75% of the total number of meetings of the Board and meetings of the committees of the Board of which he was a member. The policy of the Board is that all directors should attend annual meetings of shareholders.

Audit Committee. The Board of Directors has established an Audit Committee in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934, as amended. The current members of this committee

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are Messrs. Micek (Chair), Roberts and Wallace. Although there presently are three members of the Audit Committee, NYSE Amex rules permit us, as a smaller reporting company, to have only two members of the audit committee. The Board has determined that the members of the Audit Committee are independent under the rules of the SEC and the NYSE Amex. In addition to being independent, Mr. Micek has been determined by the Board to be an audit committee financial expert as defined by the SEC and the NYSE Amex. Mr. Micek's designation by the Board as an audit committee financial expert is not intended to be a representation that he is an expert for any purpose as a result of such designation, nor is it intended to impose on him any duties, obligations or liability that are greater than the duties, obligations or liability imposed on him as a member of the Audit Committee and the Board in the absence of such designation.

The Audit Committee, among other functions, has the sole authority to appoint and replace the independent auditors, is responsible for the compensation and oversight of the work of the independent auditors, reviews the results of the audit engagement with the independent auditors, and reviews and discusses with management and the independent auditors quarterly and annual financial statements and major changes in accounting and auditing principles. The Audit Committee met five times during 2009. The Board has adopted a written charter for the Audit Committee. The Audit Committee charter may be obtained free of charge by writing to Enova Systems, Inc., 1560 West 190th Street, Torrance, California 90501, Attention: Chief Financial Officer or by accessing the Investor Relations section of our website (www.enovasystems.com).

Compensation Committee. The Board of Directors has established a Compensation Committee. The current members of this committee are Messrs. Davies (Chair), Roberts and Wallace. The Board has determined that Messrs. Davies, Roberts and Wallace are independent members of the Compensation Committee under the rules of the NYSE Amex.

The Compensation Committee, among other functions, reviews and recommends compensation structures, programs and amounts, and establishes corporate and management performance goals and objectives. The determinations of the Compensation Committee typically are ratified by the full Board of Directors, including a majority of independent directors. In performing its functions with respect to management and employees, the Compensation Committee may rely upon the recommendations of or delegate authority to our Chief Executive Officer. The Compensation Committee met two times during 2009. The Board has adopted a written charter for the Compensation Committee. A copy of the Compensation Committee charter may be obtained free of charge by writing to Enova Systems, Inc., 1560 West 190th Street, Torrance, California 90501, Attention: Chief Financial Officer or by accessing the Investor Relations section of our website (www.enovasystems.com).

Nominating and Governance Committee. The Board of Directors has established a Nominating and Governance Committee. The current members of this committee are Messrs. Davies, Roberts and Wallace. The Nominating and Governance Committee generally monitors, reviews, and makes recommendations on (i) Board composition including assessment of skills, performance, and independence, and (ii) corporate governance matters and practices, including formulating and periodically reviewing the Code of Ethics applicable to the Company's directors, officers and employees. The Board has adopted a written charter for the Governance Committee. A copy of the charter may be obtained free of charge by writing to Enova Systems, Inc., Enova Systems, Inc., 1560 West 190th Street, Torrance, California 90501, Attention: Chief Financial Officer or by accessing the Investor Relations section of our web site (www.enovasystems.com). There have been no material changes during the last fiscal year to the procedures by which security holders may recommend nominees to Enova's board of directors.

Code of Ethics

Enova Systems has adopted a Code of Ethics For Officers, Directors, and Employees consistent with Securities and Exchange Commission (SEC) rules requiring a Code of Ethics and the NYSE Amex rules requiring a Code of Conduct and Ethics. It applies to our Board of Directors, Chief Executive Officer, Chief Financial Officer and

principal accounting officer, and employees. A copy of the Code of Ethics for Officers, Directors, and Employees may be obtained free of charge by writing to Enova Systems, Inc., 1560 West 190th Street, Torrance, California 90501, Attention: Chief Financial Officer or by accessing the Investor Relations section of our website

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(www.enovasystems.com). To the extent required by the rules of the Securities and Exchange Commission (SEC) and the NYSE Amex, we will post on our website any amendments and waivers relating to our code of ethics.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Securities Exchange Act of 1934 requires our officers and directors and beneficial owners of greater than 10% owners of our common stock to file reports of ownership and changes in ownership with the SEC and provide copies to us. Based solely on a review of Section 16 reports and written representations from officers and directors, we believe that during the fiscal year ended December 31, 2009, our officers, directors, and greater than 10% owners timely filed all reports they were required to file under Section 16(a), except: (i) Shell Asset Management Company, in connection with the following acquisitions by three of its pension fund clients, did not file on a timely basis (a) a Form 3 to report its acquisition of 2,152,728 shares of Common Stock on July 28, 2008, (b) Form 4s to report 64 acquisition transactions in 2008 covering a total of 2,880,000 shares of Common Stock, which transactions occurred during the period from July 2008 through October 2008 and (c) Form 5s filed in December 2009 when all of such transactions were subsequently reported.; and (ii) Mr. John Micek, a non-executive director, did not file on a timely basis a Form 4 to report the acquisition in one transaction of 100,000 shares of Common Stock in December 2009, which Form 4 was subsequently filed.

ITEM 11. EXECUTIVE COMPENSATION

The table below summarizes the total compensation paid to or earned by each of the named executive officers for the fiscal years ended December 31, 2009 and 2008:

SUMMARY COMPENSATION TABLE

Name and Principal Position	Fiscal Year	Salary (\$)	Bonus (\$)(A)	Stock Awards (\$)(B)	Options Awards (\$)(C)	All other Compensation (\$)(D)	Total (\$)
Michael Staran	2009	\$ 250,000	\$ 140,000		\$ 162,261	\$ 76,850	\$ 629,111
Chief Executive Officer	2008	\$ 249,653		\$ 285,000	\$ 286,020	\$ 51,911	\$ 872,584
Jarett Fenton	2009	\$ 185,050	\$ 60,000		\$ 95,687	\$ 16,174	\$ 356,911
Chief Financial Officer	2008	\$ 183,007			\$ 200,214	\$ 14,379	\$ 397,600
John Mullins(E)	2009	\$ 175,346	\$ 50,000		\$ 72,306	\$ 277	\$ 297,929
Chief Operating Officer							

- (A) The Board of Directors awarded discretionary bonuses to the company's officers in December based on several factors, predominately due to the negotiation of the equity raise with the payment of minimal investment banking fees in December 2009.
- (B) Stock awards issued to employees as compensation for services are valued in accordance to SEC rules as the grant date value at issuance in accordance with FASB ASC 718.
- (C) The valuation of option awards issued to employees are calculated in accordance with SEC rules as the grant date value in accordance with FASB ASC 718 consistent with the assumptions set forth in Note 13 to the financial statements in this Annual Report on Form 10-K. Amounts in 2008 have been recomputed under the same methodology in accordance with SEC rules.

- (D) For Mr. Staran, the amount shown attributable to 2009 includes (i) \$34,314 for lease of apartment and related insurance; (ii) \$18,418 for auto allowance and insurance; (iii) \$2,218 value of life insurance premiums paid; and (iv) \$15,505 in medical insurance premiums. For Mr. Fenton, the amount shown attributable to 2009 includes (i) \$2,218 value of life insurance premiums paid; (ii) \$3,436 in medical insurance premiums paid; and (iii) \$8,828 in auto allowance and insurance. In 2008, the amounts shown attributable for Mr. Staran include: (i) \$35,475 for lease of apartment and related insurance; (ii) \$15,505 in medical insurance premiums; and (iii) \$2,218 value of life insurance premiums paid. In 2008, the amounts shown attributable for Mr. Fenton include: (i) \$2,218 value of life insurance premiums paid; (ii) \$4,020 in medical insurance premiums paid; and (iii) \$6,599 in auto allowance and insurance.

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(E) Mr. Mullins became a named executive officer in 2009.

Employment Agreement***Michael Staran***

Prior to his appointment as Chief Executive Officer, Mr. Staran's compensation was governed by a letter agreement executed on March 27, 2007 retroactive to January 22, 2007 when he served as Executive Vice President. Pursuant to the letter agreement, Mr. Staran received an annual salary of \$190,000, was eligible to participate in the executive bonus program, received health and life insurance benefits, and received living and transportation reimbursements. We also agreed to issue Mr. Staran 5,000 shares of common stock.

Upon his appointment as Chief Executive Officer on August 28, 2007, the Board of Directors increased Mr. Staran's annual salary from \$190,000 to \$235,000 retroactive to July 1, 2007 and he was granted 6,000 shares of Enova's common stock.

Effective February 11, 2008, we entered into an employment agreement with Mr. Staran to provide him an annual salary of \$250,000 beginning as of January 1, 2008. On October 29, 2008, Mr. Staran was granted 12,000 shares of Enova's common stock. Pursuant to the February 11, 2008 employment agreement, we leased a car for Mr. Staran's use and pay for related expenses. Mr. Staran also is entitled to reimbursement for an apartment at the rate of \$2,822 per month. The employment agreement further provides for life, medical and disability benefits and 15 days of annual accrued vacation.

The following table presents information regarding outstanding equity awards held by the executive officers named in the Summary Compensation Table at December 31, 2009.

Outstanding Equity Awards at Fiscal Year-Ended December 31, 2009

Name	Option Awards				Stock Awards	
	Number of Securities Underlying Unexercised Options	Number of Securities Underlying Unexercised Options (#)	Option	Option	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)
	Exercisable	Unexercisable	Exercise Price	Expiration Date		
Michael Staran		100,000(A)	\$ 1.26	12/18/2019	25,000(F)	\$ 46,250
		100,000(B)	\$ 0.80	4/13/2014		
	66,667	33,333(C)	\$ 3.81	3/23/2018		
	23,000		\$ 4.35	9/21/2015		
Jarett Fenton		50,000(A)	\$ 1.26	12/18/2019		
		70,000(B)	\$ 0.80	4/13/2014		
	46,667	23,333(C)	\$ 3.81	3/23/2018		
John Mullins		50,000(A)	\$ 1.26	12/18/2019		
	7,500	22,500(D)	\$ 0.80	4/13/2019		

15,000 15,000(E) \$ 0.21 3/11/2019

- (A) The options were granted on December 18, 2009 and vest over three years on a quarterly basis on the last day of each calendar quarter provided the option holder is then an officer of Enova as of such date. The first 1/12 or 8.33% of the shares under each option vested on January 1, 2010. In the event there is a change of control of Enova, the options will become fully vested.
- (B) The options were granted on April 14, 2009 and vest over three years on an annual basis on the anniversary of the grant date provided the option holder is then an officer of Enova as of such date. The first 1/3 or 33.33% of the shares under each option will vest on April 14, 2010. In the event there is a change of control of Enova, the options will become fully vested.
- (C) The options were granted on March 24, 2008 and vest over three years on an annual basis on December 31st of each year, provided the option holder is then an officer of Enova as of such date. The second 1/3 or 33.33% of

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the shares under each option vested on December 31, 2009. In the event there is a change of control of Enova, the options will become fully vested.

- (D) The options were granted on April 14, 2009 and vest over three years on a quarterly basis on the last day of each calendar quarter provided the option holder is then an officer of Enova as of such date. The first 1/12 or 8.33% of the shares under each option vested on June 30, 2009. In the event there is a change of control of Enova, the options will become fully vested.
- (E) The options were granted on March 12, 2009 and vest over two years on a quarterly basis on the last day of each calendar quarter provided the option holder is then an officer of Enova as of such date. The first 1/8 or 12.5% of the shares under each option vested on March 31, 2009. In the event there is a change of control of Enova, the options will become fully vested.
- (F) Equity shares totaling 75,000 shares were granted on April 4, 2008 and vest over three years on an annual basis on December 31st of each year, provided the holder is then an officer of Enova as of such date. The second 1/3 or 33.33% of the shares vested on December 31, 2009. In the event there is a change of control of Enova, the shares will become fully vested.

Current Equity Incentive Plans

We presently have only one active stock-based compensation plan. The 2006 Equity Compensation Plan authorizes the Compensation Committee to grant stock options and other stock awards to employees and consultants, including executives and directors, and such grants are currently approved by the whole board of directors. The determination of whether option grants are appropriate each year is based upon individual measures established for each individual within the subjective determination of the board of directors. Options are not necessarily granted to each executive during each year. Options granted to executive officers generally vest in conjunction with the attainment of the performance goals of the Company. In 2009, Messrs. Staran, Fenton and Mullins were granted 200,000 stock options, 120,000 stock options and 110,000 stock options, respectively.

Change of Control and Retirement Arrangements

The terms of the February 11, 2008 employment agreement, as modified on February 17, 2009, with our current Chief Executive Officer provides that in the event Mr. Staran's employment is terminated by us without cause, he is entitled to receive as severance (i) three months of health benefits, (ii) his contingent bonus, (iii) 18 months payment of his current base salary on a monthly basis and (iv) a relocation allowance of \$20,000. If his duties or responsibilities are materially diminished or if he is assigned duties that are demeaning or otherwise materially inconsistent with the duties then currently performed by him, Mr. Staran will have the right to receive the same severance payment as if his employment had been terminated without cause.

On February 17, 2009, the Board of Directors entered into a severance agreement with Jarett Fenton, the Chief Financial Officer of Enova. Mr. Fenton's agreement provides for a 12 month severance provision. In the event that Mr. Fenton's employment is terminated by Enova without cause, he is entitled to receive as severance three months of health benefits and 12 months payment of his current base salary, to be paid on a monthly basis. If Mr. Fenton's duties or responsibilities are materially diminished or he is assigned duties that are demeaning or otherwise materially inconsistent with the duties then currently performed, he will have the right to terminate his agreement and receive the same severance payment as if his employment had been terminated without cause.

Table of Contents**Director Compensation**

The table below summarizes the total compensation we paid to our Directors (other than Mr. Staran) for the fiscal year ended December 31, 2009:

Non-Executive Director Name	Fees Earned or		Nonequity Nonqualified Incentive Deferred		All Other Compensation		Total
	Paid in Cash (\$)	Stock Awards \$(C)	Option Awards \$(D)	Plan Compensation (\$)	Earnings (\$)	Compensation (\$)	
Bjorn Ahlstrom(A)	\$ 15,000	\$ 22,500					\$ 37,500
Malcolm Currie(A)	\$ 15,000	\$ 22,500					\$ 37,500
Richard Davies(B)							
John Micek	\$ 20,000	\$ 30,000	\$ 27,376				\$ 77,376
Edwin Riddell	\$ 20,000	\$ 30,000	\$ 27,376				\$ 77,376
Roy Roberts	\$ 20,000	\$ 30,000	\$ 27,376				\$ 77,376
John Wallace	\$ 20,000	\$ 30,000	\$ 27,376				\$ 77,376

(A) Messrs. Ahlstrom and Currie resigned their position as Director effective December 8, 2009.

(B) Mr. Davies elected not to receive compensation for his services in the year ended December 31, 2009.

(C) Stock awards issued to directors as compensation for services are valued in accordance to SEC rules as the grant date value at issuance in accordance with FASB ASC 718.

(D) The options vest over one year on a quarterly basis on the last day of each calendar quarter provided the option holder is then a director of Enova as of such date. The first 1/4 or 25% of the shares under each option will vest on March 31, 2010. In the event there is a change of control of Enova, the options will become fully vested.

During 2009, we issued, or accrued for issuance, an aggregate of 157,918 shares of common stock to the non-executive board directors. The current provisions of the Board compensation, effective as of July 1, 2008, provides that each Director receive quarterly compensation at a flat rate of \$5,000 in cash and \$7,500 in stock valued at the closing prices of our common stock on the last day of the quarter in which the meeting is held. The flat rate is not dependent on the amount or type of services performed by the Directors. In addition, compensation paid to members of the Board who serve on our audit committee are provided additional compensation of \$2,500 per quarter for the chairman of the audit committee and \$1,250 per quarter for other members of the audit committee. All Directors are also reimbursed for out-of-pocket expenses incurred in connection with attending Board and committee meetings.

Table of Contents**ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS**

The table below sets forth information as to (a) any person, including their address, known to us to own beneficially more than 5% of our voting securities, (b) equity securities beneficially owned by each of our named executive officers and directors; and (c) equity securities beneficially owned by the current executive officers and directors as a group. Beneficial ownership is determined in accordance with the SEC's Regulation 13D-G. Accordingly, the information below reflects stock options, warrants, and other securities beneficially held by the specified person that may be exercised or converted into common stock within 60 days. Except as indicated in the footnotes to this table and subject to applicable community property laws, the persons named in the table to our knowledge have sole voting and investment power with respect to all shares of securities shown as beneficially owned by them. The information in this table is as of March 1, 2010 based upon an aggregate of 31,488,041 voting shares from (i) 31,404,336 shares of common stock outstanding and (ii) potential conversion of Series A Preferred Stock and Series B Preferred Stock into 83,705 shares of common stock.

Owner	Number of Shares of Common Stock	Percent of Common Stock	Percent of Common Stock, Series A and Series B Preferred Stock, and Common Stock Voting Together
Jagen, Pty., Ltd.(1) 9 Oxford Street, South Ybarra 3141 Melbourne, Victoria Australia	3,222,222	10.3%	10.2%
Shell Asset Management BV(2) Sir Winston Churchillaan 366H, 2285 SJ Rijswijk ZH, The Netherlands	6,054,960	19.3%	19.2%
J O Hambro Capital Management Group Limited(3) Ground Floor, Ryder Court 14 Ryder Street London, United Kingdom SW1Y 6QB	2,227,500	7.1%	7.1%
GAM Holdings AG(4) Klaustrasse 10 8008 Zurich, Switzerland	2,244,275	7.1%	7.1%
Special Situation Fund, L.P.(5) 527 Madison Avenue, Suite 2600, New York, NY 10022	4,530,814	14.4%	14.4%
Swiss Global Asset Management AG(6) 69, route d Esch, L-1470, Luxembourg	1,771,750	5.6%	5.6%
Jarett Fenton(8)	83,333	0.3%	0.3%
Michael Staran(9)	210,166	0.7%	0.7%
John Mullins(10)	57,083	0.2%	0.2%
Bjorn Ahlstrom	67,292	0.2%	0.2%
Malcolm R. Currie	79,960	0.3%	0.3%
Richard Davies(1)(7)	3,222,222	10.3%	10.2%
John J. Micek(11)	192,533	0.6%	0.6%
Roy S. Roberts(11)	59,870	0.2%	0.2%
John R. Wallace(11)	80,563	0.3%	0.3%
Edwin O. Riddell(12)	140,514	0.4%	0.4%

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All Executive Officers and Directors as a group	4,193,536	13.4%	13.3%
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- (1) Jagen Pty. Ltd. (Jagen) shares beneficial ownership with Jagen's controlling shareholder, the B. Liberman Family Trust and its trustee, Jagen Nominees, Pty. Ltd. Mr. Davies is Managing Director for Jagen. Boris and Helen Liberman possess ultimate voting and discretionary authority over the shares.
- (2) Based on a Form 3 filed December 15, 2009. Shell Asset Management Company BV manages assets of The Shell Group and its subsidiaries and affiliates, including certain pension plans organized for the benefit of employees of The Shell Group. As such, The Shell Group and such subsidiaries and affiliates, including such

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pension plans, have the right to the receipt of dividends from, and the proceeds from the sale of, the shares of common stock.

- (3) Based upon a Holding(s) in Company filed on August 19, 2008 via the Regulatory News Service (RNS) on the London Stock Exchange.
- (4) Based upon a Schedule 13G/A filed February 11, 2009, GAM Holding AG holds shared voting and investment power with its wholly-owned subsidiaries, GAM International Management Limited (GIML) and GAM London Limited (GAM London) of which GIML is the investment adviser of GAM Global Diversified and GAM London is the investment adviser of SJP GAM Managed-Life, SJP GAM Managed Pension, SJPI GAM Sterling Managed Fund and SJPI GAM US Dollar Managed Fund.
- (5) Based on a Schedule 13G filed January 7, 2010. MGP Advisors Limited (MGP) is the general partner of the Special Situations Fund III, QP, L.P. AWM Investment Company, Inc. (AWM) is the general partner of MGP and the general partner of and investment adviser to the Special Situations Cayman Fund, L.P. Austin W. Marx and David M. Greenhouse are the principal owners of MGP and AWM. Through their control of MGP and AWM, Messrs. Marx and Greenhouse share voting and investment power over the portfolio securities of each of the funds listed above.
- (6) Based on a Schedule 13G filed December 31, 2009. SAM Sustainable Asset Management AG (SAM), as investment adviser of the Julius Bar Multipartner SAM Smart Energy Fund (part of the Julius Barr Multipartner SICAV), holds investment power over the shares listed above. The voting power of the shares listed above is held by the Julius Barr Multipartner SICAV fund administrator, Swiss & Global Asset Management Ltd. Zurich, which has delegated such voting power over the shares listed above to SAM which in turn, has delegated such voting power to Robeco Institutional Asset Management.
- (7) Mr. Davies has elected not to receive quarterly compensation for his services as director.
- (8) Includes 78,333 shares of common stock underlying stock options that are exercisable within 60 days.
- (9) Includes 139,666 shares of common stock underlying stock options that are exercisable within 60 days.
- (10) Includes 57,083 shares of common stock underlying stock options that are exercisable within 60 days.
- (11) Includes 8,625 shares of common stock underlying stock options that are exercisable within 60 days.
- (12) Includes 60,847 shares of common stock underlying stock options that are exercisable within 60 days.

Equity Compensation Plan Information

For the fiscal year ended December 31, 2009, we had two equity compensation plans: the 1996 Option Plan and the 2006 Equity Compensation Plan. Each plan was adopted with the approval of our shareholders. The 1996 Stock Option Plan has expired for purposes of issuing new grants. The 1996 Stock Option Plan, however, will continue to govern awards previously granted under that plan. The 2006 plan, adopted at our annual meeting in November 2006, has a total of 3,000,000 shares reserved for issuance. The following table provides information regarding our equity compensation plans as of December 31, 2009:

Number of Securities

Plan Category	Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c)	
Equity compensation plans approved by security holders	1,410,000	\$ 2.10	1,663,000	
Equity compensation plans not approved by security holders				
Total	1,410,000	\$ 2.10	1,663,000	

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ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Currently the Company does not have written policies and procedures for the review, approval or ratification of related person transactions. However, given the Company's small size, senior management and the audit committee or the board of directors is able to review all transactions consistent with applicable securities rules governing Company transactions and proposed transactions exceeding \$120,000 in which a related person has a direct or indirect material interest. Currently the Board of Directors reviews related person transactions and has approval authority with respect to whether a related person transaction is within the Company's best interest.

Independence of Board of Directors and its Committees

The Board of Directors currently consists of six directors. The minimum and maximum number of Directors under our Bylaws is six and nine members. The Board has fixed its current size at six members, which was effective from the Annual Meeting held on December 8, 2009. The Board of Directors has determined that at least 50% of its current members are independent within the meaning of NYSE Amex rules as applicable to a smaller reporting company. Specifically, Messrs. Davies, Micek, Roberts and Wallace are independent.

Audit Committee. The Board of Directors has established an Audit Committee in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934, as amended.. The current members of this committee are Messrs. Micek (Chair), Roberts and Wallace. Although there presently are three members of the Audit Committee, NYSE Amex rules permit us, as a smaller reporting company, to have only two members of the audit committee. The Board has determined that the members of the Audit Committee are independent under the rules of the SEC and the NYSE Amex.

In addition to being independent, Mr. Micek has been determined by the Board to be an audit committee financial expert as defined by the SEC and the NYSE Amex. Mr. Micek's designation by the Board as an audit committee financial expert is not intended to be a representation that he is an expert for any purpose as a result of such designation, nor is it intended to impose on him any duties, obligations or liability that are greater than the duties, obligations or liability imposed on him as a member of the Audit Committee and the Board in the absence of such designation. Additionally, his designation as an audit committee financial expert does not affect the duties, obligations or liability of any other member of the Audit Committee.

Compensation Committee. The Board of Directors has established a Compensation Committee. The current members of this committee are Messrs. Davies (Chair), Roberts and Wallace. The Board has determined that Messrs. Davies, Roberts and Wallace are independent members of the Compensation Committee under the rules of the NYSE Amex.

Nominating and Governance Committee. The Board of Directors has established a Nominating and Governance Committee (the Nominating Committee). The current members of this committee are Messrs. Wallace (Chair), Davies and Roberts. The Board has determined that Messrs. Wallace, Davies and Roberts are independent members of the Governance Committee under the rules of the NYSE Amex.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

PMB Helin Donovan LLP served as our registered independent auditor for the most recently completed fiscal year, and has served in that role since its appointment by the Audit Committee on January 31, 2007.

Pre-Approval of Audit and Permissible Non-Audit Services

The Audit Committee pre-approves all audit and permissible non-audit services provided by the independent auditors. These services may include audit services, audit-related services, tax services and other services. The independent auditors and management are required to periodically report to the Audit Committee regarding the extent of services provided by the independent auditors in accordance with this pre-approval, and the fees for the services performed to date. The Audit Committee may also pre-approve particular services on a case-by-case basis.

Table of Contents**Audit Fees**

The following table sets forth the aggregate fees billed or to be billed by our principal accountant for the following services for the years ended December 31, 2009 and 2008:

	2009	2008
Audit Fees	\$ 195,000	\$ 216,000
Audit-Related Fees	\$ 25,000	\$ 6,000
Tax Fees	\$ 13,000	\$ 13,500
All Other Fees		
Total	\$ 233,000	\$ 235,500

The tax fees above were pre-approved by our Audit Committee as appropriate, which concluded that the provision of such services by PMB Helin Donovan was compatible with the maintenance of that firm's independence in the conduct of its auditing functions.

PART IV**ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES****(a) 1. Financial Statements**

The financial statements filed as a part of this report are included in Item 8 of this report.

(a) 2. Financial Statement Schedule

No financial statement schedules are filed as a part of this report.

(a) 3. Exhibits

Exhibit #	Description
3.1	Our Amended and Restated Articles of Incorporation (incorporated by reference to Exhibit 3.1 of our Annual Report on Form 10-K for the fiscal year ending December 31, 2006, as filed on April 2, 2007)
3.2	Our Amended and Restated bylaws (incorporated by reference to Exhibit 3.2 of our Quarterly Report on Form 10-Q for the period ended September 30, 2009, as filed on November 12, 2009)
10.1	Form of Indemnification Agreement (incorporated by reference to Exhibit 10.26 of our Quarterly Report on Form 10-Q for the period ended June 30, 2005, as filed on August 15, 2005)
10.2	Form of Security Agreement entered into May 31, 1995 between us and Credit Managers Association of California, Trustee (incorporated by reference to Exhibit 10.65 of our Quarterly Report on Form 10-Q for the period ended April 30, 1996, as filed on June 14, 1996)
10.3	Commercial Promissory Note dated October 10, 2007 between us and Union Bank of California (incorporated by reference to Exhibit 10.3 of our Annual Report Form 10-K for the period ended December 31 2007, as filed on March 26, 2008)
10.4	

Placing Agreement in connection with an application to join AIM dated July 19, 2005 between us and Investec Bank (UK) Limited (incorporated by reference to Exhibit 10.28 of our amended Quarterly Report on Form 10-Q for the period ended September 30, 2005, as filed November 21, 2005)

- 10.5 Agreement relating to the appointment of a Nominated Adviser and Broker dated July 19, 2005 between us and Investec Bank (UK) Limited (incorporated by reference to Exhibit 10.29 of our amended Quarterly Report on Form 10-Q for the period ended September 30, 2005, as filed November 21, 2005)
- 10.6 Placing Agreement dated July 25, 2007 between us and Investec Bank (UK) Limited (incorporated by reference to Exhibit 10 of our Current Report on Form 8-K as amended filed August 7, 2007)
- 10.7 Facility Lease Agreement entered into October 17, 2007 between us and Sunshine Distribution L.P., (incorporated by reference to Exhibit 10.1 of our Current Report on Form 8-K filed October 23, 2007)
- 10.8 Retirement Agreement and Limited Release entered into July 12, 2007 between us and Edwin Riddell, formerly our Chief Executive Officer and President (incorporated by reference to Exhibit 10 of our Current Report on Form 8-K as amended filed July 16, 2007)+

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Exhibit #	Description
10.9	Employment Agreement entered into February 11, 2008 between us and Michael Staran, our President and Chief Executive Officer (incorporated by reference to Exhibit 10.1 of our Current Report on Form 8-K filed February 15, 2008)+
10.10	Letter Agreement entered into March 27, 2007 between us and Michael Staran, Executive Vice President and currently our President and Chief Executive Officer (incorporated by reference to Exhibit 10.1 of our Current Report on Form 8-K filed April 4, 2007)+
10.11	Placing Agreement entered into March 26, 2008 (incorporated by reference to Exhibit 10 of our Current Report on Form 8-K/A filed April 4, 2008)
10.12	Securities Purchase Agreement entered into April 23, 2008 (incorporated by reference to Exhibit 10.1 of our Current Report on Form 8-K filed April 24, 2008)
10.13	Registration Rights Agreement entered into April 23, 2008 (incorporated by reference to Exhibit 10.2 of our Current Report on Form 8-K filed April 24, 2008)
10.14	Supply Agreement with Navistar, Inc. entered into May 16, 2008 (incorporated by reference to Exhibit 10.4 of our Quarterly Report on Form 10-Q for the three month period ending July 30, 2008, as filed on August 14, 2008) #
10.15	Stock Purchase Agreement entered into April 6, 2009 (incorporated by reference to Exhibit 99.1 of our Current Report on Form 8-K filed April 6, 2009)
10.16	Joint Venture Dissolution and Termination Agreement entered into April 6, 2009 (incorporated by reference to Exhibit 99.2 of our Current Report on Form 8-K filed April 6, 2009)
10.17	Securities Purchase Agreement entered into October 29, 2009 (incorporated by reference to Exhibit 99.1 of our Current Report on Form 8-K filed October 30, 2009)
10.18	Placing Agreement entered into October 29, 2009 (incorporated by reference to Exhibit 99.3 of our Current Report on Form 8-K filed October 30, 2009)
10.19	Registration Rights Agreement entered into December 15, 2009 (incorporated by reference to Exhibit 99.1 of our Current Report on Form 8-K filed December 15, 2009)
23.1	Consent of PMB Helin Donovan*
31.1	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*
31.2	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*
32	Certification Pursuant to 18 U.S.C. Section 1350*

* Filed herewith.

+ Management contract or compensatory plan or arrangement.

Portions of the exhibit have been omitted pursuant to a request for confidential treatment submitted to the Securities and Exchange Commission.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ENOVA SYSTEMS, INC.

By: /s/ Michael Staran

Michael Staran,
Chief Executive Officer & President

Dated: March 26, 2010

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Michael Staran, with full power to act alone, his true and lawful attorney-in-fact and agent, with full power of substitution for him and in his name, place and stead, in any and all capacities, to sign any and all amendments to the annual report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, each of the undersigned has executed this Power of Attorney as of the date indicated. Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant and in the capacities and on the date indicated.

Signature	Title	Date
/s/ Michael Staran Michael Staran	Chief Executive Officer, President, and Director (Principal Executive Officer)	March 26, 2010
/s/ Jarett Fenton Jarett Fenton	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	March 26, 2010
/s/ John R. Wallace John R. Wallace	Director, Chairman of the Board	March 26, 2010
/s/ Richard Davies Richard Davies	Director	March 26, 2010
/s/ John Micek	Director	March 26, 2010

John Micek

/s/ Roy Roberts

Director

March 26, 2010

Roy Roberts

/s/ Edwin Riddell

Director

March 26, 2010

Edwin Riddell