ENOVA SYSTEMS INC
Form 10-K
March 30, 2011

Table of Contents

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, 2010

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	**95-3056150**
(State or Other Jurisdiction of Incorporation or Organization)	*(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 o No þ

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 o No þ

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 þ No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Date 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 o No o

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. o

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 o Accelerated filer o Non-accelerated filer o Smaller reporting company þ
(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 o No þ

As of June 30, 2010, the approximate aggregate market value of common stock held by non-affiliates of the Registrant was $10,224,000 (based upon the closing price for shares of the Registrant s common stock as reported by The NYSE Amex). As of February 28, 2011, there were 31,485,953 shares of common stock, no par value, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

None.

ENOVA SYSTEMS, INC.

2010 FORM 10-K ANNUAL REPORT

TABLE OF CONTENTS

Table of Contents

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. 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.

A fundamental element of Enova s strategy is to develop and produce advanced proprietary software 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 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 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 2011 and beyond, there are no assurances that such additional agreements will be realized.

During 2010, we continued to produce electric and hybrid electric drive systems and components for First Auto Works of China (FAW), Navistar Corporation (Navistar), Tanfield Engineering Plc (Tanfield), Smith Electric Vehicles (Smith), Freightliner Custom Chassis Corporation (Freightliner) and the US Military as well as several other domestic and international vehicle and bus manufacturers. We also were successful in characterizing our electric drive system components with Freightliner s chassis in late 2010. 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.

Table of Contents

Enova believes that its business outlook will continue to improve in line with the recovery of the world economy and 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 delivered a total of 369 full systems and 48 additional motor controller units of Enova drive systems to its customers. Enova delivered 149 all-electric drive systems to Smith in 2010. Smith s Newton product offering carries a GVWR of 26,000 lbs. Enova also delivered 120 pre-transmission hybrid drive systems to FAW for their Jiefang 103 passenger hybrid bus and 25 charge depleting bus systems to Navistar during the year.

For the year ended December 31, 2010, the following customers each accounted for more than ten percent (10%) of our total revenues:

Customer	Percent
Smith Electric Vehicles N.A. Inc.	45%
Navistar, Inc.	26%
First Auto Works Group Corporation	14%

Please refer to the Management s Discussion and Analysis of Financial Condition and Results of Operations in Item 7 below and our financial statements in Item 8 below for further analysis of our results.

Climate Change Initiatives and Environmental Legislation

Due to vehicles powered by internal combustion engines cause pollution (green house gasses), there has been significant public pressure in Europe and Asia to reduce these emissions. Thus, countries in Europe and Asia and the US (federal and state levels) have enacted or pending legislation in Europe, 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. Governor Arnold Schwarzenegger s Executive Order S-01-07, the Low Carbon Fuel Standard (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 ($_2$CO), 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 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.

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) 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.

Table of Contents

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$653 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.

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 2010, 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 seek to 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 highlights of our accomplishments in 2010:

Freightliner Custom Chassis Corporation (FCCC), a division of Daimler Trucks North America. Enova and FCCC entered into the final phase of our all-electric commercial chassis development program. The development program included collaboration and involved the engineering and integration of Enova s 120kW all-electric drive system technology into 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. Design, engineering, integration and testing activities were conducted at the FCCC plant in Gaffney, SC and the Enova facility in Torrance, CA. The resulting integration of our all-electric drive system into the MT-45 chassis branded a new, FCCC all-electric product offering: the FCCC MT-EV. The MT-EV (the FCCC model name) chassis boasts a GVWR of 14,000 to 19,500 lbs. The durable steel straight-rail chassis frame reduces flex and bowing to minimize stress while carrying heavy payloads. The quiet operation of the all-electric MT-EV also makes for an

enjoyable driver experience. The MT-EV has a flat-leaf spring front and rear suspension, allowing for a smooth, solid ride that minimizes cargo shifts on uneven road surfaces.

U.S. General Services Administration (GSA). GSA extended its contract with Enova as the exclusive supplier contract of the all-electric step van. GSA procures vehicles for government agencies and the armed forces. Under this contract, Enova will coordinate the supply of MT-EV all-electric walk-in step vans to GSA under the Cargo Vans category. Enova continues to benefit from federal fleet penetration via GSA with the

Table of Contents

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 supplies hybrid electric drive systems to IC Bus, an affiliated division of Navistar.

Remy Inc (Remy). Enova and Remy executed a letter of intent to develop a new electric drive system based on Enova s next generation Omni controller and Remy HVH motor. Remy is North America s largest independent manufacturer of advanced electric propulsion motors. Remy s patented design and assembly technology have been in production since 2006 and are currently powering vehicles around the world. The optimized controller-motor solution in development demonstrates the strong technology heritage and commitment to customers that Enova continues to bring to the hybrid and all-electric vehicle market.

Smith Electric Vehicles N.A. Inc. (Smith) - 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 received a grant of $32 million under this program to accelerate the production plans at their new U.S. manufacturing facility. As production is ramps up, we anticipate the opportunity to continue to supply Smith with our all-electric vehicle drive systems that are used to power Smith s Newton trucks.

Throughout 2010, we finalized the development of our next generation power management and drive system component: the Omni controller. We continue to work on the development of a next generation on-board 10kW charger. Our various electric and hybrid-electric drive systems, power management and power conversion systems continue to be used in applications including Class 3-6 trucks, transit buses and heavy industrial vehicles. We also are continuing our current research and development programs and formulating new programs with the U.S. government and other private sector companies for electric and hybrid systems.

Some technological developments in 2010:

Omni Inverter. Enova Systems recently introduced its next-generation of power electronics with the new Omni-series 200kVA-capable power inverter for hybrid-electric and all-electric vehicles. Power-source agnostic, the new Omni-series controller also offers increased flexibility and ease-of-integration. With plug-and-play connectivity, it is compatible with a wide range of vehicle drive systems and motors, and can be configured for HEV, PHEV and EV applications. Features include:

Proprietary new liquid cooling strategy enabling leading power density;

Software configurable control allowing common hardware to be used across many sizes of hybrid or electric vehicles;

Compatible with a wide range of induction and permanent magnet motors;

True continuous power output of 110 kW, with peak over 200 kVA making the Omni capable of powering the Enova P90, P120, and even P240 drive systems; and

Heavy-duty cast aluminum chassis and robust design using minimal harnesses and interconnects allows flexible vehicle mounting in any orientation.

Omni On-Board Charger. Enova started formulating the plan to develop and validate its next-generation of power electronics with the new Omni-series 10kVA power on-board charger for hybrid-electric and all-electric vehicles. The new Omni-series charger also offers increased flexibility and ease-of-integration. With plug-and-play connectivity, it is compatible with a wide range of vehicle drive systems and motors, and can be configured for HEV, PHEV and EV applications. Features will include:

Charger unit, single phase 208-240V input @ 48A, single output, regulated 250-450Vdc, CAN controlled (2 CAN lines), liquid cooled (as little as 4 lpm at 60 degrees C ambient temperature)

Table of Contents

Independent unit instead of module and compatible with any power inverter

Compliant with SAE J1772 and CENELEC standards

Ruggedized and environmentally tested to SAE J1455 standards/IP67

Higher efficiency with reduced cooling requirements

Higher power, accommodates US standard single phase outlets up to 60A for faster charging

Integrated 600W DC/DC converter charges 12V or 24V battery configurations

Omni DC/DC Converter. Enova is also entertaining complementing our aforementioned components strategies with the idea of creating a DC/DC converter unit either within the housing of the Omni charger or as a standalone unit. This plan is at a very preliminary stage but the primary features are expected to include:

Independent unit instead of module and compatible with any power electronics

Compliant with SAE standards (environmental and electrical)

Battery Suppliers

LG Chem Power Inc. (LGCPI). Enova entered into a production intent supply partnership with LGCPI, the North American subsidiary of LG Chem Ltd., for power oriented battery packs on Enova s charge sustaining post transmission hybrid systems. LG Chem Ltd. client list includes major domestic and international OEMs. Combined with Enova s new Omni inverter, we believe these LGCPI battery packs will provide Enova s customers with an advanced and robust medium duty truck and bus hybrid systems while presenting strong value and performance to the end user.

Enova also continues to mature its long standing relationship with Valence for their battery packs, as well as evaluating technologies offered by A123, Tesla, Samsung Bosch and Dow Kokam.

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, we believe we should be able to provide a more comprehensive, adaptive and effective solution to a larger base of customers and applications. We intend to 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.

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.

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

Table of Contents

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 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 four 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 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.

Table of Contents

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. Target markets include inter-city transit buses and trucks as well as military vehicles.

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 scalable 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.

Table of Contents

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.

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.

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.

Competitive Conditions

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 governments in our target markets adopt initiatives that reduce greenhouse gas emissions. In the event governments in our target markets completely rescinded their support for the reduction of greenhouse gas emissions and sustainability initiatives, our business model would be adversely and significantly affected. Moreover, competition within the mobile hybrid sector is still somewhat fragmented, although there are indications of some consolidation at this time. The competition consists of development stage companies as well as major U.S. and international companies. 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. 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 government 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. As the industry matures, key technologies and capabilities are expected to play critical competitive roles. Our goal

Table of Contents

is to position ourselves as a long term competitor in this industry by focusing on all-electric, hybrid and fuel cell powered drive systems and related sub systems, component integration, technology application and strategic alliances.

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.

By building a business based on long-standing relationships with satisfied clients such as Navistar, Smith Electric Vehicles, First Auto Works and Freightliner Custom Chassis Corporation , we believe we are building defenses against competition by securing customers with global reach and OEM status. 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 our designs to take advantage of such developments. We seek to provide internal funding where technology development is critical to our future.

For the years ended December 31, 2010, and 2009, we spent $1,838,000, and $1,228,000, 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 relating to power management and control that will expire in 2015. We also have trademarks or service marks in the United States. 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. Enova currently advanced initiatives to produce next-generation electric drive system components like the Omni Inverter and Omni 10kW On-Board Charger. In light of these advancements and initiatives, Enova made an immaterial adjustment to bring the three U.S patents to a zero book value balance.

The introduction of the Omni Inverter and Omni 10kW On-Board Charger may involve patenting new technology. This process 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

Table of Contents

issued. Moreover, there can be no assurance that third parties will not assert claims against us with respect to existing and future products. Although we intend to vigorously protect our rights, there can be no assurance that these measures will be successful. In the event of litigation to determine the validity of any third party claims, such litigation could result in significant expense to Enova. Additionally, the laws of certain countries in which our products are or may be developed, manufactured or sold may not protect our products and intellectual property rights to the same extent as the laws of the United States.

Enova s 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.

Employees

As of December 31, 2010, we had a total of 59 employees comprising of 17 temporary and 42 full time employee positions. In addition, we employ three 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.

Table of Contents

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 and apply to all sections of this Form 10-K.

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-looki 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 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 $7,420,000 for the fiscal year ended December 31, 2010 and our accumulated deficit was $144,128,000 as of December 31, 2010. 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 at higher margins. 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, 2010, Smith accounted for 45% of our total revenues and our three largest customers, inclusive of Smith, comprised 85% 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

Table of Contents

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.

Our future growth depends on consumers willingness to accept hybrid and electric vehicles

Our growth is highly dependent upon the acceptance by consumers of, and we are subject to an elevated risk of any reduced demand for, alternative fuel vehicles in general and electric vehicles in particular. If the market for electric vehicles does not develop as we expect or develops more slowly than we expect, our business, prospects, financial condition and operating results will be materially and adversely affected. The market for alternative fuel vehicles is relatively new, rapidly evolving, characterized by rapidly evolving and changing technologies, price competition, additional competitors and changing consumer demands or behaviors. Factors that may influence the acceptance of alternative fuel vehicles, include:

perceptions about alternative fuel vehicles safety (in particular with respect to lithium-ion battery packs), design, performance and cost, especially if adverse events or accidents occur that are linked to the quality or safety of alternative fuel vehicles;

volatility in the cost of oil and gasoline;

consumer s perceptions of the dependency of the United States on oil from unstable or hostile countries;

improvements in fuel of the internal combustion engine;

the environmental consciousness of consumers;

government regulation

macroeconomics

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, 2010, the three highest outstanding accounts receivable balances totaled approximately $2,482,000 which represents 83% 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.

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 any global automotive slowdown and its effects on OEM inventory levels, production schedules, support for our products and decreased ability to accurately forecast future product demand.

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

The mobile power market, including electric vehicle and hybrid electric vehicles, continue to be subject to rapid technological changes. 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.

Our industry is affected by political and legislative changes

In recent years there has been significant legislation enacted in the United States and abroad to reduce or eliminate automobile pollution, promote or mandate the use of vehicles with no tailpipe emissions (zero emission

Table of Contents

vehicles) or reduced tailpipe emissions (low emission vehicles). 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.

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

Many of our competitors, in the automotive, electronic, and other industries, have substantially greater financial, personnel, and other resources than we do. 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 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. 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.

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 an office in Hawaii 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

Table of Contents

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.

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.

As previously reported in an 8-K filed January 20, 2011 with date of earliest event reported being January 14, 2011, on January 6, 2011, we entered into a Partial Settlement Agreement, dated January 5, 2011 (the Settlement Agreement), with Arens Controls Company, L.L. C. (Arens) to resolve certain claims made by Arens in connection with its action captioned Arens Controls Company, L.L.C. v. Enova Systems, Inc., filed in 2008 with the Northern District of Illinois of the U.S. District Court (the Legal Action). The Settlement Agreement was amended by Amendment No. 1 to Partial Settlement Agreement (the Amendment) dated January 14, 2011.

In the Legal Action, Arens asserted eight counts against Enova, including certain claims regarding inventory asserted by Arens to be valued at $1,671,000 (the Inventory Claim), a claim for payment under certain invoices, and claims for certain other monetary obligations of Enova to Arens.

Under the terms of the Settlement Agreement, we paid $327,000 directly to Arens and Arens dismissed with prejudice all but two of the counts under the Legal Action. Additionally, under the Settlement Agreement (as amended), on January 14, 2011, we acquired the inventory that was the subject of the Inventory Claim (the Inventory) for payment of $1,498,000, net of an agreed upon reduction of $173,000 for the acquisition price of such Inventory. In return, Arens was deemed to have released us from any further liability on the Inventory Claim. However, per the terms of the Settlement Agreement (as amended), Arens is not deemed to have released us from (but instead is deemed to have preserved its claims under) two of the counts in the Legal Action. We intend to vigorously defend such remaining claims.

ITEM 4. ***[REMOVED AND 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 2010		
Fourth Quarter	$ 1.47	$ 0.64
Third Quarter	$ 1.05	$ 0.60
Second Quarter	$ 1.57	$ 0.89

First Quarter	$ 2.22	$ 1.42
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

Table of Contents

As of December 31, 2010, there were approximately 1,500 holders of record of our Common Stock. As of December 31, 2010, 100 shareholders, many of whom are also Common Stock shareholders, held our Series A Preferred Stock. As of December 31 2010, 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.

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, 2010, Enova had an accumulated deficit of approximately $144,128,000 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, 2010, 2009 and 2008. The statement of operations data and balance sheet data for and as of the years ended December 31, 2010, 2009, and 2008 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,		
	2010	2009	2008
	(In thousands, except per share data)		
Statement of Operations Data			
Net revenues	$ 8,572	$ 5,622	$ 6,443
Cost of revenues	7,159	5,016	8,224
Gross profit (loss)	1,413	606	(1,781)
Operating expenses			
Research and development	1,838	1,228	2,505
Selling, general and administrative	6,558	6,223	8,692
Total operating expenses	8,396	7,451	11,197
Other income and (expense)			
Interest and other income (expense), net	(437)	(196)	202
Equity in losses of non-consolidated joint venture, net		(4)	(118)
Total other income and (expense)	(437)	(200)	84
Net loss	$ (7,420)	$ (7,045)	$ (12,894)
Per common share:			

Basic and diluted loss per share	$ (0.24)	$ (0.33)	$ (0.66)
Weighted average number of common shares outstanding	31,422	21,385	19,660
Balance Sheet Data			
Total assets	$ 17,690	$ 22,011	$ 19,242
Long-term debt	$ 1,286	$ 1,286	$ 1,263
Shareholders equity	$ 10,646	$ 17,247	$ 14,143

Table of Contents

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 2010 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 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 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 were aggressively pursued throughout 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 2010 are:

Freightliner Custom Chassis Corporation (FCCC), a division of Daimler Trucks North America, and Enova entered into the final phase of our all-electric commercial chassis development program. The development program included collaboration and involved the engineering and integration of Enova s 120kW all-electric drive system technology into 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. Design, engineering, integration and testing activities were conducted at the FCCC plant in Gaffney, SC and the Enova facility in Torrance, CA. The resulting integration of our all-electric drive system into the MT-45 chassis branded a new, FCCC all-electric product offering: the FCCC MT-EV. The MT-EV chassis boasts a GVWR of 14,000 to 19,500 lbs. The durable steel straight-rail chassis frame reduces flex and bowing to minimize stress while carrying heavy payloads. The quiet operation of the all-electric MT-EV also makes for an enjoyable driver experience. The MT-EV has a flat-leaf spring front and rear suspension, allowing for a smooth, solid ride that minimizes cargo shifts on uneven road surfaces.

Navistar, one of the largest manufacturer and marketer of medium and heavy trucks and mid-range diesel engines, continued a relationship that started in 2005 by delivering systems in 2010 as part of an intended large scale deployment to hybrid school buses to school districts. Enova supports this commitment by engineering a post-transmission hybrid drive system that integrates easily and non-invasively. Several states and school districts have indicated expressed interest in expanding their hybrid school bus fleets. As a result, Enova delivered 25 charge depleting systems to Navistar in 2010.

China s FAW, the country s oldest indigenous automaker, also continued its commercial relationship with Enova by integrating its pre-transmission hybrid drive systems for the Jiefang 103 passenger hybrid bus. These buses were first showcased at the 2008 Beijing Summer Olympics and then in 2010 World s Expo in Shanghai. Enova

delivered a total of 120 pre-transmission hybrid drive systems to FAW in 2010.

The U.S. General Services Administration (GSA) extended its contract with Enova as the exclusive supplier contract of the all-electric step van. GSA procures vehicles for government agencies and the armed forces. Under this contract, Enova will coordinate the supply of MT-EV all-electric walk-in step vans to GSA under the Cargo Vans category. Enova continues to benefit from federal fleet penetration via GSA with the

Table of Contents

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 supplies hybrid electric drive systems to IC Bus, an affiliated division of Navistar.

Enova and Remy Inc. (Remy) entered into an agreement to develop a new electric drive system based on Enova s next generation Omni controller and Remy HVH motor. Remy is North America s largest independent manufacturer of advanced electric propulsion motors. Remy s patented design and assembly technology have been in production since 2006 and are currently powering vehicles around the world. The optimized controller-motor solution in development demonstrates the strong technology heritage and commitment to customers that Enova continues to bring to the hybrid and all-electric vehicle market.

Smith Electric Vehicles N.A. Inc. (Smith) received a grant of $32 million as part of the American Recovery and Reinvestment Act of 2009, a U.S. Department of Energy program in the form of cost-share grants for supporting the construction of U.S. based manufacturing plants to produce batteries and electric drive components. The program seeks to establish development, demonstration, evaluation, and education projects to accelerate the market introduction and penetration of advanced electric drive vehicles. As production is ramps up, we anticipate the opportunity to continue to supply Smith with our all-electric vehicle drive systems that are used to power Smith s Newton trucks.

The Company delivered a total of 369 full systems and 48 additional motor controller units of Enova drive systems to its broad range of customers. Enova delivered 149 all-electric drive systems to Smith in 2010. Smith s Newton product offering carries a GVWR of 26,000 lbs. Enova also delivered 120 pre-transmission hybrid drive systems to FAW for their Jiefang 103 passenger hybrid bus and 25 charge depleting bus systems to Navistar during the year.

Enova s product focus is digital power management and power conversion systems. Its software, and hardware manage and control the power that drives a vehicle. 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, 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. Enova also performs significant research and development to augment and support others and our internal 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.

Table of Contents

Critical Accounting Policies

The preparation of consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates, including those related to product returns, bad debts, inventories, intangible assets, income taxes, warranty obligations, contingencies, and litigation. We base our estimates on historical experience and on various other assumptions believed to be reasonable under the circumstances, including current and anticipated worldwide economic conditions, both in general and specifically in relation to the hybrid and electric vehicle markets, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Our significant accounting policies are described in Note 2 to the consolidated financial statements included in Item 8 of this Form 10-K. We believe the following critical accounting policies necessitated that significant judgments and estimates be used in the preparation of its consolidated financial statements. We have reviewed these policies with our Audit Committee.

Revenue Recognition We generally recognizes revenue at the time of shipment when title and risk of loss have passed to the customer, persuasive evidence of an arrangement exists, performance of our obligation is complete, our price to the buyer is fixed or determinable, and we are reasonably assured of collection. If a loss is anticipated on any contract, a provision for the entire loss is made immediately. Determination of these criteria, in some cases, requires management s judgment. Should changes in conditions cause management to determine that these criteria are not met for certain future transactions, revenue for any reporting period could be adversely affected.

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 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.

Warranty We warrant our products against defects in materials and workmanship arising during normal use. We service warranty claims directly through our customer service department. Our warranty periods generally range up to eighteen months. We estimate and recognize product warranty costs, which are included in cost of sales, as we sell the related products. Warranty costs are forecasted based on the best available information, primarily historical claims experience and the expected costs. We have not made any material changes in our warranty reserve methodology during the past three fiscal years. We do not believe there is a reasonable likelihood that there will be a material change in assumptions we use to calculate the warranty reserve. However, actual claim costs may differ from the amounts estimated. If a significant product defect were to be discovered, our financial statements may be materially impacted.

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

Table of Contents

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 include material, labor, and manufacturing overhead 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 (i.e., cycle counts). 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.

Intangible Assets Intangible assets consist of patents. Intangible assets with an indefinite life are not amortized. Intangible assets with a definite life are amortized on a straight-line basis over their estimated useful lives ranging up to 20 years. Intangible assets with a definite life are tested for impairment whenever events or circumstances indicate that their carrying amounts may not be recoverable.

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 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.

Deferred Income Taxes We evaluate the need for a valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. We have considered future taxable income and ongoing prudent and feasible tax planning strategies in assessing the need for a valuation allowance. We determined that we

Table of Contents

may not be able to realize all or part of its net deferred tax asset in the future, thus a valuation allowance was recorded against our deferred tax assets.

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.

Research and Development Research, development, and engineering costs are expensed in the period incurred. Costs of significantly altering existing technology are expensed as incurred.

Recent Accounting Pronouncements

In April 2010, the FASB issued ASU No. 2010-17, Revenue Recognition Milestone Method (Topic 605): *Milestone Method of Revenue Recognition*, or ASU 2010-17. ASU 2010-17 allows the milestone method as an acceptable revenue recognition methodology when an arrangement includes substantive milestones. ASU 2010-17 provides a definition of substantive milestone, and should be applied regardless of whether the arrangement includes single or multiple deliverables or units of accounting. ASU 2010-17 is limited to transactions involving milestones relating to research and development deliverables. ASU 2010-17 also includes enhanced disclosure requirements about each arrangement, individual milestones and related contingent consideration, information about substantive milestones, and factors considered in the determination. ASU 2010-17 is effective on a prospective basis for milestones achieved in fiscal years, and interim periods within those years, beginning on or after June 15, 2010, with early adoption permitted. The adoption of this standard did not have any impact on our consolidated financial statements.

In January 2010, the FASB issued ASU 2010-06 providing authoritative guidance related to fair value measurements and disclosures. The provisions of the guidance require new disclosures related to transfers in and out of Levels 1 and 2 classifications as well as provisions requiring a reconciliation of the activity in Level 3 recurring fair value measurements. Existing disclosures also were expanded to include Level 2 fair value measurement valuation techniques and inputs. The guidance is effective for all interim and annual reporting periods beginning after December 15, 2009, except for the disclosures for Level 3 activity which is effective for fiscal years beginning after December 15, 2010. The adoption of the guidance did not, and is not expected to, have a material impact on our business, financial position, results of operations or liquidity

In October 2009, the FASB issued ASU No. 2009-14, Software (Topic 985): *Certain Revenue Arrangements That Include Software Elements a consensus of the FASB EITF*, or ASU 2009-14. ASU 2009-14 changes the accounting model for revenue arrangements that include tangible products and software elements. The amendments of this update provide additional guidance on how to determine which software, if any, relating to the tangible product also would be excluded from the scope of the software revenue recognition guidance. The amendments in this update also provide guidance on how a vendor should allocate arrangement consideration to deliverables in an arrangement that includes tangible products and software as well as arrangements that have deliverables both included and excluded from the scope of software revenue recognition guidance. This standard is effective prospectively for revenue arrangements entered into or materially modified in fiscal years beginning on or after June 15, 2010. The adoption is not expected to have an effect on the Company s financial position, results of operations, or cash flows.

In October 2009, the FASB issued ASU No. 2009-13, *Revenue Recognition (Topic 650): Multiple-Deliverable Revenue Arrangements a consensus of the FASB EITF*, or ASU 2009-13. ASU 2009-13 will separate multiple-deliverable revenue arrangements. This update establishes a selling price hierarchy for determining the selling price of a deliverable. The amendments of this update will replace the term fair value in the revenue allocation guidance with selling price to clarify that the allocation of revenue is based on entity-specific assumptions rather than assumptions of a marketplace participant. The amendments of this update will eliminate the residual method of

allocation and require that arrangement consideration be allocated at the inception of the arrangement to all deliverables using the relative selling price method. The amendments in this update will require that a vendor determine its best estimated selling price in a manner consistent with that used to determine the price to sell the deliverable on a standalone basis. This standard is effective prospectively for revenue arrangements entered into or materially modified in fiscal years beginning on or after June 15, 2010. The Company does not believe that the adoption of the pronouncement will have a material impact on the Company s consolidated financial statements.

Table of Contents

Results of Operations

Years Ended December 31, 2010 and 2009

Net Revenues. Net revenues were $8,572,000 for the year ended December 31, 2010, representing an increase of $2,950,000 or 52% from net revenues of $5,622,000 during the same period in 2009. Revenues in the current year benefited from U.S. government grant programs, resulting in increased sales for fulfillment of orders from Smith Electric Vehicles and Navistar Inc. Smith Electric Vehicles, Navistar and FAW comprised 45%, 26% and 14% of our 2010 revenues, respectively. In the prior year, FAW, Navistar and HCATT comprised 56%, 15% and 13% of our 2009 revenues, respectively. The Company continued its strategy to concentrate support to core customers in 2010 in our migration to a first tier production company, recording sales with several OEMs, including Navistar, Freightliner and Smith Electric Vehicles in the United States and FAW in China. 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 $7,159,000 for the year ended December 31, 2010, compared to $5,016,000 for the year ended December 31, 2009, representing an increase of $2,143,000, or 43%. Cost of revenues increased in 2010 compared to the same period in the prior year primarily due to the increase in revenue. The improvement in cost of revenues 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 warranty accruals and 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 for over one year.

Gross Margin. The gross margin for the year ended December 31, 2010 was 16.5% compared to 10.8% in the prior year; an increase of 53%. 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 2011, 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, 2010 were $1,838,000 compared to $1,228,000 for the same period in 2009, an increase of $610,000 or 50%. R&D costs were higher in 2010 as we devoted increased engineering personnel resources to the development of our next generation motor control unit and charger, continued testing of our EV vehicles, and testing and integration of new battery technologies and electric motors. In 2009, R&D efforts were focused on development of our new Ze all electric vehicle, the initial development of our next generation motor control unit, testing of new battery technologies as well as engine off capability for our post transmission parallel hybrid drive system. We also continued to allocate necessary resources to the development and testing of upgraded proprietary control software, enhanced DC-DC converters and other power management software. We intend to 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, accounting reserves and legal costs. Selling, general and administrative expenses increased by $335,000, or 5%, during the year ended December 31, 2010 to $6,558,000 from $6,223,000 in the prior year, mainly due to executive bonuses and share-based compensation charges.

Table of Contents

Interest and Other Income (Expense). For the year ended December 31, 2010, interest and other income (expense) was an expense of $437,000, representing an increase of $241,000 or 123%, from an expense of $196,000 in 2009. The increase in 2010 was primarily due to a charge of approximately $328,000 for partial settlement of litigation with Arens, as detailed in Note 18 to these financial statements.

Equity in losses of non-consolidated joint venture. A net loss of $4,000 was recorded in the year ended December 31, 2009, reflecting a loss of $10,000 in our pro-rata share of losses attributable to our forty percent investment interest in the Hyundai-Enova Innovative Technology Center (ITC) and a gain of $6,000 that was recorded upon the dissolution of the joint venture in April 2009. There was no activity attributed to this account in the year ended December 31, 2010.

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. Historically cash flows from operations have not been sufficient to meet our obligations and 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, 2010 were financed by product sales and working capital reserves. As of December 31, 2010, the Company had $8,631,000 of cash and cash equivalents and short term investments.

On June 30, 2010, the Company entered into a secured a revolving credit facility with a financial institution for $200,000 which was secured by a $200,000 certificate of deposit. The facility is for a period of 3 years and 6 months from July 1, 2010 to December 31, 2013. 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, with respect to the lease of the Company s corporate headquarters at 1560 West 190th Street, Torrance, California.

Net cash used in operating activities was $4,319,000 for the year ended December 31, 2010, compared to $1,609,000 for the year ended December 31, 2009. Cash used in operating activities was primarily affected by the cost of revenue, R&D, personnel and general operating costs, which were partially mitigated by our utilization of existing inventory balances to fulfill customer orders in 2010. Non-cash items included expenses for stock-based compensation, depreciation and amortization, inventory reserve, impairment loss, and issuance of common stock for services. In 2009, in conjunction with the reduction of our credit facility, as explained above, we redeemed a certificate of deposit for $2,000,000 which included a $200,000 irrevocable letter of credit for the full amount of a credit facility in favor of Sunshine Distribution LP, with respect to the lease of the Company s corporate headquarters. This certificate of deposit for $2,000,000 is shown on the statement of cash flows as $1,800,000 for the year ended December 31, 2009.

Net cash used in investing activities was $317,000 for the year ended December 31, 2010, compared to net cash provided by investing activities of $2,000 for the year ended December 31, 2009. In 2010, capital expenditures were expended mainly for the acquisition and integration of test vehicles and for production test equipment. In 2009, we received proceeds of $137,000 from the dissolution of the Enova-ITC joint venture and had capital expenditures of $135,000.

Net cash used in financing activities totaled $11,000 for the year ended December 31, 2010 and was attributable to proceeds from stock options and payments made to notes payable agreements compared to net cash provided by financing activities of $9,361,000 for the year ended December 31, 2009 from an offering 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.

The company maintained the same certificate of deposit with Union Bank with a balance of $200,000 in 2010 and 2009, which is used to secure a credit facility.

Table of Contents

Accounts receivable increased by $1,408,000, or 98%, from $1,442,000 as of December 31, 2009 to $2,850,000 as of December 31, 2010 due to increased shipments to Smith Electric Vehicles, Navistar and FAW in the fourth quarter of 2010.

Inventory decreased by $1,150,000, or 21%, from $5,605,000 as of December 31, 2009 to $4,455,000 as of December 31, 2010 due to our utilization of existing inventory balances to fulfill increases in customer orders during the second half of 2010. The decrease resulted from the utilization of existing inventory balances to fulfill increases in customer orders during 2010 and net inventory activity which included receipts of approximately $4,412,000 and normal consumption of approximately $5,562,000, net of inventory write-offs and reserves.

Prepaid expenses and other current assets increased by $219,000, or 83%, to $482,000 as of December 31, 2010 from a balance of $263,000 as of December 31, 2009. The increase was primarily attributable to deposits made to vendors for certain purchase orders.

Long term accounts receivable increased to $100,000 at December 31, 2010 compared to $0 at December 31, 2009. The Company agreed to defer collection of accounts receivable as requested by a customer for the term of the Company s warranty period. The Company has remedied all past and current warranty claims and anticipates full collection of the receivable.

Property and equipment decreased by $191,000 or 14%, net of accumulated depreciation, to $1,172,000 as of December 31, 2010 from a balance of $1,363,000 as of December 31, 2009. The decrease was due to recording of depreciation expense during the year. For the year ended December 31, 2010, the Company recognized depreciation expense of $534,000 and recorded additions to fixed assets totaling $343,000.

Intangible assets decreased by $60,000 as Patents were written off completely during 2010 from $60,000 at December 31, 2009 to zero at December 31, 2010. Enova did not recognize any additional intellectual property assets, including patents and trademarks, during 2010. The Company recognized an impairment loss of $55,000 during 2010 as the Company determined that these patents have no future economic value.

Accounts payable increased by $1,432,000, or 345%, from $415,000 at December 31, 2009 to $1,847,000 at December 31, 2010. The accounts payable balance increased due to purchases of inventory made to support fourth quarter sales and in-line with our short-term sales forecast for 2011.

Enova reported $31,000 of deferred revenue at December 31, 2010 consisting of customer deposits for purchase orders, compared to a deferred revenue balance at December 31, 2009 of $357,000. The Company anticipates recognition of the December 31, 2010 balance into revenue in the first quarter of 2011.

Accrued payroll and related expenses increased by $645,000, or 233%, from $277,000 at December 31, 2009 to $922,000 at December 31, 2010. The change is primarily due to the accrual of 2010 employee and executive incentive bonuses which are expected to be paid in 2011.

Other accrued liabilities increased by $452,000, or 35%, to $1,739,000 at December 31, 2010 from $1,287,000 at December 31, 2009. The increase is primarily attributable to an accrual for the partial settlement of the Arens litigation and an accrual for severance to paid in 2011.

Accrued interest increased by $82,000, or 8%, from $1,074,000 at December 31, 2009 to $1,156,000 at December 31, 2010. 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).

Off-Balance Sheet Arrangements

Other than contractual obligations incurred in the normal course of business, we don t have any off-balance sheet financing arrangements or liabilities.

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

Not applicable.

ITEM 8. ***FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA***

ENOVA SYSTEMS, INC.

CONTENTS
December 31, 2010 and 2009

Table of Contents

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, 2010 and 2009, 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 are 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 includes 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, 2010 and 2009, 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

PMB Helin Donovan, LLP
San Francisco, California
March 30, 2011

Table of Contents

ENOVA SYSTEMS, INC.

BALANCE SHEETS

	December 31, 2010	December 31, 2009
ASSETS		
Current assets:		
Cash and cash equivalents	$ 8,431,000	$ 13,078,000
Certificate of deposit, restricted	200,000	200,000
Accounts receivable, net	2,850,000	1,442,000
Inventories and supplies, net	4,455,000	5,605,000
Prepaid expenses and other current assets	482,000	263,000
Total current assets	16,418,000	20,588,000
Long term accounts receivable	100,000	
Property and equipment, net	1,172,000	1,363,000
Intangible assets, net		60,000
Total assets	$ 17,690,000	$ 22,011,000
LIABILITIES AND STOCKHOLDERS EQUITY		
Current liabilities:		
Accounts payable	$ 1,847,000	$ 415,000
Deferred revenues	31,000	357,000
Accrued payroll and related expenses	922,000	277,000
Other accrued liabilities	1,739,000	1,287,000
Current portion of notes payable	63,000	68,000
Total current liabilities	4,602,000	2,404,000
Accrued interest payable	1,156,000	1,074,000
Notes payable, net of current portion	1,286,000	1,286,000
Total liabilities	7,044,000	4,764,000
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, 2010 and 2009	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, 2010 and 2009	1,094,000	1,094,000
Common stock no par value, 750,000,000 shares authorized; 31,479,000 and 31,404,000 shares issued and outstanding as of December 31, 2010 and 2009, respectively	144,110,000	143,995,000

Additional paid-in capital	9,040,000	8,336,000
Accumulated deficit	(144,128,000)	(136,708,000)
Total stockholders equity	10,646,000	17,247,000
Total liabilities and stockholders equity	$ 17,690,000	$ 22,011,000

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

Table of Contents

ENOVA SYSTEMS, INC.

STATEMENTS OF OPERATIONS

	For the Years Ended December 31,	
	2010	**2009**
Revenues	$ 8,572,000	$ 5,622,000
Cost of revenues	7,159,000	5,016,000
Gross income	1,413,000	606,000
Operating expenses		
Research and development	1,838,000	1,228,000
Selling, general & administrative	6,558,000	6,223,000
Total operating expenses	8,396,000	7,451,000
Operating loss	(6,983,000)	(6,845,000)
Other income and (expense)		
Interest and other income (expense)	(437,000)	(196,000)
Equity in losses of non-consolidated joint venture, net		(4,000)
Total other income and (expense)	(437,000)	(200,000)
Net loss	$ (7,420,000)	$ (7,045,000)
Basic and diluted loss per share	$ (0.24)	$ (0.33)
Weighted average number of common shares outstanding	31,422,000	21,385,000

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

Table of Contents

ENOVA SYSTEMS, INC.

STATEMENTS OF STOCKHOLDERS EQUITY

Convertible Preferred Stock						Additional		
Series A		Series B		Common Stock		Paid-in	Accumulated	St
Shares	Amount	Shares	Amount	Shares	Amount	Capital	Deficit	
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)	$
				50,000	20,000			
				25,000	95,000			
						704,000		

(7,420,000)

,																
2,652,000	$	530,000		546,000	$	1,094,000		31,479,000	$	144,110,000	$	9,040,000	$	(144,128,000)	$	

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,	
	2010	**2009**
Cash flows from operating activities		
Net loss	$ (7,420,000)	$ (7,045,000)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation and amortization	539,000	605,000
Loss on asset disposal		58,000
Loss on impairment	55,000	
Inventory reserve	232,000	714,000
Loss on litigation settlement	328,000	
Equity in losses of non-consolidated joint venture		10,000
Gain from dissolution of non-consolidated joint venture		(6,000)
Issuance of common stock for director services		165,000
Issuance of common stock for employee services	95,000	172,000
Stock option expense	704,000	387,000
(Increase) decrease in:		
Certificate of deposit, restricted		1,800,000
Accounts receivable	(1,408,000)	(644,000)
Inventories and supplies	918,000	2,509,000
Prepaid expenses and other current assets	(219,000)	(48,000)
Long term accounts receivable	(100,000)	
Increase (decrease) in:		
Accounts payable	1,432,000	(100,000)
Deferred revenues	(326,000)	357,000
Accrued payroll and related expenses	645,000	(18,000)
Other accrued liabilities	124,000	(607,000)
Accrued interest payable	82,000	82,000
Net cash used in operating activities	(4,319,000)	(1,609,000)
Cash flows from investing activities		
Proceeds from the dissolution of non-consolidated joint venture		137,000
Purchases of property and equipment	(317,000)	(135,000)
Net cash provided by (used in) investing activities	(317,000)	2,000
Cash flows from financing activities		
Payments on notes payable	(31,000)	(64,000)
Net proceeds from sales of common stock		9,420,000
Proceeds from the exercise of stock options	20,000	5,000

Net cash provided by (used in) financing activities	(11,000)	9,361,000
Net increase (decrease) in cash and cash equivalents	(4,647,000)	7,754,000
Cash and cash equivalents, beginning of period	13,078,000	5,324,000
Cash and cash equivalents, end of period	$ 8,431,000	$ 13,078,000
Supplemental disclosure of cash flow information		
Interest paid	$ 5,000	$ 7,000
Assets acquired through financing arrangements	$ 26,000	$ 57,000
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.

Table of Contents

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 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 accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. The Company has sustained recurring losses and negative cash flows from operations. Management believes that the Company s losses in recent years have primarily resulted from a combination of insufficient product and service revenue to support the Company s skilled and diverse technical staff believed to be necessary to support exploitation of the Company s technologies. Historically, the Company s growth and working capital needs have been funded through a combination of private equity, debt and lease financing. During 2010, the Company s growth has been funded primarily through a combination of product sales and existing cash reserves. As of December 31, 2010, the Company had approximately $8.4 million of cash and cash equivalents. At December 31, 2010, the Company had net working capital of approximately $11.6 million as compared to $18.0 million at December 31, 2009, representing a decrease of $6.4 million.

Management is focused on managing costs in line with estimated total revenue, including contingencies for cost reductions if projected revenue is not fully realized. However, there can be no assurance that anticipated revenue will be realized or that the Company will successfully implement its plans. Management has implemented measures to conserve cash, including a reduced employee headcount from the peak in 2008, stringent inventory management. The Company will continue to conserve available cash by closely scrutinizing expenditures and extensively utilizing current inventory for sales during 2011. The Company believes that it currently has sufficient cash and financial resources to meet its operating requirements over the next twelve months. The Company has experienced increasing operating margins in 2010 however, it had negative cash flow from operations, and if this trend continues, the Company may have an ongoing requirement for additional capital investment. The Company may need to raise additional capital to accomplish all of its business objectives over the next several years. In addition, the Company may in the future selectively pursue possible acquisitions of businesses, technologies, content, or products complementary to those of the Company in order to expand its presence in the marketplace and achieve operating efficiencies. The Company can make no assurance with respect to either the availability or terms of such financing and capital when it may be required.

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.

Reclassifications

Certain amounts in the prior year have been reclassified to conform to the current year presentation. This change in classification does not affect previously reported cash flows from operating or financing activities in the Company s previously reported Statements of Cash Flows, or the Company s previously reported Statements of Operations for any period.

Table of Contents

ENOVA SYSTEMS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

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. Receipt of a customer purchase order is the primary method of determining that persuasive evidence of an arrangement exists.

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 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.

Since some customer orders contain multiple items such as equipment and services which are delivered at varying times, the Company determines whether the delivered items can be considered separate units of accounting. Delivered items are considered separate units of accounting if delivered items have value to the customer on a standalone basis, there is objective and reliable evidence of the fair value of undelivered items, and if delivery of undelivered items is probable and substantially in the Company s control. The recognition of revenue from milestone payments are over the

remaining minimum period of performance obligation. As required, the Company evaluates its sales contract to ascertain whether multiple element agreements are present.

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

Table of Contents

ENOVA SYSTEMS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

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 12 to 24 months from the date of installation, subject to standard limitations for 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 twenty-four month period. The warranty liability is evaluated on an ongoing basis for adequacy and may be adjusted as additional information regarding expected warranty costs becomes known.

Shipping and Handling Costs

The Company includes shipping and handling costs associated with inbound and outbound fre